PUBLIC
S.F.
LIBRARY

CALIFORNIANA

SAN FRANCISCO PUBLIC LIBRARY

3 1223 04517 4803

BOOK NO.

ACCESSION

*379.794 Sa52r $\frac{23}{}$ A

579361

NOT TO BE TAKEN FROM THE LIBRARY

FORM 3427-5000-8-46

DOCUMENTS DEPARTMENT

C. F. Plunkett,

Bush St. Cos. School

Jan. 29 1877

TEACHERS LIBRARY
San Francisco Public Schools

SAN FRANCISCO
PUBLIC LIBRARY

SAN FRANCISCO
PUBLIC LIBRARY

DEPARTMENT OF PUBLIC SCHOOLS.

CITY AND COUNTY OF SAN FRANCISCO.

TWENTY-THIRD ANNUAL REPORT

OF THE

Superintendent of Public Schools

FOR THE

SCHOOL YEAR ENDING JUNE 30, 1876.

Spaulding & Barto, Steam Book and Job Printers,
("Rural Press" and "Scientific Press" Office,) 414 Clay Street.
1876.

x379.794
Sa52r 23 A
579361

MEMBERS OF THE BOARD OF EDUCATION, OFFICERS AND STANDING COMMITTEES, FOR THE SCHOOL YEAR

Ending June 30th, 1876.

President.............. ....JOSEPH CLEMENT.

MEMBERS:

JOS. CLEMENT	710 Washington St.	Dwl. 526 Green St.
FISHER AMES	17 City Hall, third floor.	Dwl. 2624 Sacramento St.
T. M. EDWARDS	N. E. cor. Kearny and Jackson.	Dwl. N. E. cor. Broadway and Buchanan.
N. SCHEELINE	212 Pine Street.	Dwl. 1418 Taylor Street.
O. F. VON RHEIN	638 Market Street.	Dwl. 2230 Mission Street.
W. A. PHILLIPS	Cor. Stuart and Folsom Streets.	Dwl. 312 Page Street.
D. B. TODD	Cor. Railroad and Twelfth Avenues.	Dwl. cor. Railroad and Twelfth Ave's.
ROBERT HAIGHT	226 Front Street.	Dwl. 130 Second Street.
H. M. BLACK	851 and 853 Market Street.	Dwl. 855 Market Street.
A. A. O'NEIL	652 Washington Street.	Dwl. 301 Lombard Street.
B. HAGAN	316 California Street.	Dwl. 902 O'Farrell Street.
GEO. TAIT	531 California Street.	Dwl. 804 McAllister Street.

Superintendent of Public Schools,	HENRY N. BOLANDER	22 City Hall.
Deputy Supt. of Public Schools,	DUDLEY C. STONE	22 City Hall.
Secretary	GEORGE BEANSTON	22 City Hall.
Assistant Secretary	C. A. CLINTON	22 City Hall.
Assistant Secretary	GEO. WADE	22 City Hall.
Messenger	JAMES DUFFY	22 City Hall.

STANDING COMMITTEES, 1876.

Classification—Directors Tait, Ames, Hagan, President and Superintendent.

Rules and Regulations—Directors O'Neil, Scheeline and Phillips.

Evening Schools—Directors Scheeline, Haight and Todd.

Salaries—Directors Von Rhein, Edwards and Ames.

Finance—Directors Hagan, Todd and Tait.

Furniture and Supplies—Directors Black, Von Rhein and Edwards.

Janitors—Directors Todd, Black, Phillips, and Superintendent.

Music and Drawing—Directors Edwards, Hagan and Scheeline.

Printing—Directors Haight, O'Neil and Black.

School Houses and Sites—Directors Phillips, Von Rhein and Haight.

Judiciary—Directors Ames, Tait and O'Neil.

1776

TEACHERS LIBRARY
San Francisco Public Schools

SAN FRANCISCO
PUBLIC LIBRARY

REPORT

OF THE

SUPERINTENDENT OF COMMON SCHOOLS.

Office of the Superintendent of Common Schools,
San Francisco, 1876.

*To the Honorable the Board of Education
of the City and County of San Francisco:*

Gentlemen—As required by law, I have the honor to submit the following report for the year ending June 30, 1876:

"The time of miracles has passed," is a common saying. Yet it can hardly be said that this applies to San Francisco. Scarcely thirty years ago the eye of the spectator beheld, on this narrow peninsula, nothing but dry and treeless hills, arid dunes scantily covered with unsightly shrubs, and extensive swamps filled with a vegetation by no means in keeping with such places elsewhere. What a change in so short a time! We now see spread out before us an immense city, the metropolis of the western coast of the American continent, with a population of nearly 300,000 inhabitants. This population, heterogeneous as it is, did not, in its struggle for wealth, lose sight of the greatest of American institutions—the Public School. And, to-day, it is my privilege to report that over 34,000 children, accommodated in fifty-six buildings of almost palatial dimensions, are taught by 574 teachers, who fit and prepare this rising generation to struggle successfully in the battle of life.

This highly satisfactory condition of our Public Schools does not exclude the idea that there is still room for improvement, almost in every direction. During the last six months of the past school year, several measures calculated to improve the system have been introduced, and are now in operation. I refer here to the revision of the course of study, the change made in the manner of our annual examinations, and the suppression of some text-books deemed superfluous.

It is my firm conviction that mere text-book teaching must necessarily retard progress, and work an injury, alike to pupils and teachers. All progressive teachers long for an opportunity to teach the common branches orally, and to cast aside the fetters which were always in the way of developing rational methods of teaching. In the face of these incontrovertible facts, it would be a violation of duty, on the part of public officers, to deny this just request—a request which lessens expenses, and makes instruction more rational, effectual, and lasting. In compliance with this request, made by the leading Principals, the Board of Education consented to discontinue the following text-books: Robinson's Rudiments, French's First Lessons, Colburn's Intellectual, Brown's First Lines, and Monteith's Introduction.

A general revision of the course of study was deemed a necessity by all teachers who had given the subject special attention. In consequence thereof, I kindly requested the Principals to meet with me, from time to time, to discuss the entire course, point by point. The result of these meetings, the revised course of study, is now in operation. According to this revised course, English grammar is taught orally in all grades. In the study of arithmetic, no book on the subject is allowed in the hands of pupils up to the second grade. The material of political geography has been considerably curtailed, and the history of the United States will be taught hereafter by topics.

The revised course provides material for biographical sketches of eminent men. This exercise of furnishing monthly a biographical sketch of some great man will induce our children to pay more attention to general reading at home, and lay a broad foundation for a better understanding of historical events. The revised course provides further a suitable number of poems to be memorized, recited and transposed. Memory cannot be too much exercised in early youth, provided the material to be memorized is of a suitable character, is perfectly understood, and well digested. The transposition of poems leads to a thorough understanding of the subject matter, a logical arrangement of thoughts and sentiments expressed, and to an insight into the syntactical structure of the language afforded by no other exercise in the study of language. To attain better results in oral instruction, it was absolutely necessary to present the matter of the different subjects to be studied in a more systematical order to the young and inexperienced teachers. For, to prepare the subject-matter of an object-lesson, worthy the name, is a task of the most difficult order, and requires, on the part of the teacher, a deep knowledge of psychology, language and natural history. The work "Lessons on Objects in a Pestalozzian School," adopted for the use of teachers, meets our present wants.

I regret exceedingly that at the last revision of the schedule of salaries, Section 1,687 of the State School Law was ignored, which Section provides that beginners shall be taught for the first two years by teachers who have at least four years experience; and that such teachers shall rank in point of salary with those of the first grade. To begin well is a postulate, recognized as the prime condition of success in all human affairs. But in spite of this postulate and a special provision in law, above referred to, young and inexperienced teachers are still placed in charge of eighth grade classes to serve there their apprenticeship. The effects of this perverted and unsound policy are clearly visible and keenly felt throughout all the higher grades. It is, therefore, sheer folly to expect that good teachers, in charge of the higher grades, shall undo the mental maiming, produced in eighth grade classes by inexperienced teachers. Is this marked anomaly of our public school-system to be perpetuated? Can we afford to jeopardize the future welfare of sixty promising children, brimful of life, for every young teacher who is unwilling to spend a few years in obtaining a professional training? Why did we establish Normal Schools in this State, if professional training is not requisite—is not a necessity? Every candid and experienced teacher admits that the strictures and unfavorable criticisms upon our Public Schools, which have become of late so widespread, are due to the indiscriminate employment of untrained, inexperienced teachers.

It is no wonder, under these existing evils, that many a class is not taught, but simply kept; and it is not to be wondered at that people are painfully aware of this, and are awakening to the fact that there is an enormous waste of time, energy and money, and that the results obtained are not at all commensurate with the labor and the treasure bestowed upon our schools.

I presume it is permissible to reproduce here, in support of my views on the subject of teaching in primary classes, and the indiscriminate employment of untrained teachers, two short paragraphs from my report of 1872–3, and one from a lecture of Professor Atkinson, of the Boston Institute of Technology.

Professor Atkinson describes the effect as follows:

"I think it must have struck many teachers as a strange fact, that, in the early days of childhood, before school discipline comes into operation, there is an intense and most easily awakened curiosity in children, respecting the phenomena of the outside world. Every bird, beast and insect is a marvel; the clouds, the moon, the stars, the beautiful forms and colors of flowers, the very stones under their feet, all, to the fresh and unsophisticated mind of childhood, are objects of study, objects of wonder. But after a few years of ordinary school teaching, all this is found to have disappeared, and too often no other curiosity, no other interest, or worse still, some bad one has risen to take its place. I think I am too strong in my statement; but what a satire is this on what we call education! Has the Creator implanted those instincts only to be stifled by education? Or, is the process of teaching first to kill as a preliminary to artificially restoring them? Alas! in too many cases they are never restored, and our education consists only in a mental maiming."

"Teaching is an *art* to be learned by apprenticeship, like any other art, and the special training for the business of teaching is as indispensable as for any other pursuit or profession; and the time, it is believed, is not very distant, when intelligent parents would think it no less absurd to place their children in charge of a teacher who had not been trained in the principles and methods of instruction, than to employ a surgeon who has never made himself acquainted with the science of human anatomy. In the language of the gifted Edward Everett: 'If the teacher was to fashion your child's personal proportions, or to remodel his features, with what jealousy would you inquire after his qualifications for that task? Is it of less importance how he fashions and moulds the features of the mind? The husbandman can tell us if it is a matter of little or no consequence whether you employ a skillful or unskillful person to raise a crop of corn, the growth of a few months, under a simple process of culture. Every man's reflection and experience will satisfy him that the teacher's duty is important, complicated, and arduous. It is not a mere piece of jobwork to which any one can turn his hand, but a professional calling, which requires knowledge, judgment, and experience.' "

"Dr. Channing, in an address delivered in Boston, on the twenty-eighth of February, eighteen hundred and thirty-seven, states that 'the most crying want in this commonwealth is the want of accomplished teachers. We boast of our schools; but our schools do comparatively little, for want of educated instructors. Without good teaching, a school is but a name.' Dr. Channing's declaration has been repeated again and again, even *ad nauseam*, but it must be repeated until the people prove no longer blind to their highest, holiest interests, but awaken to the necessity of qualified instructors, of teachers systematically educated for the profession. Then will they demand that we shall have not only 'educated shoemakers, and carpenters, and goldsmiths—that is, men brought up to their business'—but also educated schoolmasters. Then, the reign of the school *keeper* will be at an end, and that of the school *teacher* will begin."

The truth of these statements is frankly admitted; but quickly disposed of by saying: "there are no means to carry out the intention of the law." In my opinion the means, at hand, are adequate and sufficient, provided the most essential requirements of the law are first attended to, and disposed of. It is not necessary to reduce the salaries of other teachers, or limit what is termed higher instruction, to comply with the law.

Every applicant is examined, as required, in drawing and music, because the law expects him to teach these branches; and yet there are employed four special teachers of drawing, and seven special teachers of music. The employment of two special teachers for each branch would fully answer all practical purposes. Again, the reorganization of the Cosmopolitan Schools, as proposed by me, would also result in a reduction of expenses. All pupils studying French or German should be concentrated in as few buildings as possible, and each one of the teachers, now known as special teachers of languages, should be placed in charge of a class, and required to rotate with three English teachers daily. On this plan these schools were organized in 1865, and continued until 1871. During this period of six years it became evident that Cosmopolitan Schools need not cost a cent more per class, and that their pupils accomplished as much as others in the common branches.

The following table, showing the per cent. of pupils promoted to the High Schools from the Denman, Lincoln, and South Cosmopolitan Grammar Schools, will sustain my assertion:

	1869.	1870.	1872.	1873.	1874.	1875.	1876.
Denman Grammar............	98.1	70.0	80.4	100.0	85.7	76.9	89.2
Lincoln Grammar	33.7	93.6	71.4	66.9	46.4	56.6	70.4
South Cosmopolitan	84.8	100.0	80.0	95.2	50.0	87.0	84.0

Why these schools were reorganized on a costly plan; and why Cosmopolitan classes were formed in almost every building in the city, I shall explain in my next report.

Again, another reduction of expenses could easily be effected by a proper and judicious consolidation of classes.

"The greatest good to the greatest number," is a proud saying; but entirely meaningless when applied to our schools. A little more than seventy-two per cent. of the children attending school belong to the four lower grades, termed collectively the

Primary Department; and a little over twenty-seven per cent. to the four higher grades, known as the Grammar Department. This remarkable decrease upward indicates that a large number of children never reach the Grammar grades. But notwithstanding all this, the Primary Department is invariably selected as the one where untrained teachers must serve their apprenticeship. Here the novice begins to experiment with sixty children—sixty future citizens—and, when he has acquired some experience, he is rewarded by a transfer to the Grammar Department, where a higher salary is paid for his services, and where the work is comparatively lighter.

The evil and pernicious effects of this irrational practice are but partially mitigated and diminished by the indefatigable principals and the few experienced teachers who prefer to remain in the Primary Department. I shall repeat again, and again, reform must begin at the beginning, in the Primary Department; and until this reform has been effected, all others, of whatever nature, will prove simply palliatives.

Many, admitting the necessity of reform, suggest a reduction of the branches taught, as a means to improve the condition of our Public Schools, and to prevent the undue cramming and overworking of the children. This inference is fallacious. Eliminating, in this chain of reasoning, one factor, the untrained and inexperienced teacher, and substituting the trained and experienced, we shall arrive at a very different conclusion.

Changing text-books and the manner of hearing recitations, erecting elegant school houses, furnishing desks of the most improved style, paying strict attention to all details of manipulating classes—all this cannot supplant the live teacher, the soul which inspires the whole educational fabric with life and energy.

Therefore, the erection of a suitable building for a Normal and Training school, even at great expense, would prove a happy financial operation, provided that all teachers hereafter to be employed, were compelled to receive their training in such a school, or those who had educated themselves were obliged to demonstrate, in such an institution, their ability to teach, before being placed in charge of a class.

The days of empiricism in educational matters have passed;

and pedagogy has risen to the dignity of a science. The best minds of all civilized nations have devoted their most precious time to this all-absorbing subject of education; and a thorough investigation of the vast fields of psychology, physiology, and history, has resulted in this—that language, arithmetic, geometry, history, geography, natural sciences, drawing, music and religion, are the branches indispensable for a harmonious development of the human mind. He who advocates the omission of any one of these branches, declares himself an enemy of human progress, and should be branded with infamy by the genius of mankind. With the advent of Pestalozzi and his followers closed the period of simple memorizing, and that of visual instruction began. But it was soon found that even his system was lacking a most important element necessary for rational instruction. It was left to Froebel and his followers to demonstrate convincingly that the principle of "work" (manual labor) was as essential a factor in education as visual instruction. *To know*, and *to do*, is the fundamental principle underlying the foundation and organization of Kindergartens, Advanced-labor and Polytechnic schools.

It can not be maintained, at present, that the introduction of this new principle in schools, as a branch of instruction, has been, in every respect, satisfactory. Not the principle of work itself is contested, but simply the order, manner and extent to which manual labor shall be pursued simultaneously with mental exercises. This problem is still to be solved. That it will be solved successfully no one can doubt who has given even slight attention to this subject. The Advanced-schools of Denmark, Sweden, Russia, Austria, Holland, in fact of all the European nations, have already produced good results, and it may be safely asserted that a happy solution of this great problem is a mere question of time.

The *ethical principle* involved in manual labor, receives now its due share of attention everywhere, and the recognition of this very principle in labor by the public, may largely contribute to a speedy solution of our own social problems.

I cheerfully introduce here statements on "Practical Culture," by Miss Emma Marwedel, who is now a resident of this State:

"Traveling in England, France, Germany and Belgium, as I did, to study the subject of industrial education, I published a report in Germany of my observations, of which report a brief review has since been published in *Harper's Monthly*, for May, 1870. The advantage to the labor of a nation afforded by these schools is but a small part of their service to the world. Visiting the Newgate prison, in London, its earnest inspector, to whom I was introduced, remarked: 'The yearly cost of this institution is five million pounds sterling; if half that amount was spent in the industrial education of our poor children, thus keeping them out of the street and occupying their minds with something useful, providing them meanwhile with suitable play places and play utensils, such as you describe at the Birbeck schools, this great building would soon be empty.'" How far is this remark true?

Under our present system of education, children pass from the constraints of schools, often physically feeble and always only half developed—having received only book-training—and entirely unfit to act on their own responsibility, or to think independently. In this state the poorer classes enter a condition of personal freedom which they do not know how to use, and are thrown among people who do not feel for them the least educational or moral responsibility. Not trained in any branch of industry, and yet forced to look out for their own support, what wonder that so many boys and girls enter upon careers of crime! And yet we say, "this is one of the evils of the time," forgetting that it is our own fault, and that we and the State are alone responsible.

"We are proud of our benevolent and social institutions, affording, as they do, care for the sick and insane, the inebriate and more degraded; we boast of our schools of reform for vicious youth, and of our well-regulated prisons; but do we reflect how many of these might be saved by early instruction in the laws of health, and by industrial education, combined with elementary and practical instruction, whereby the God-given faculties of the human being should be developed and trained? What necessarily must be the lot of the surplus of unskilled laborers? They must work for beggar's wages—for what capital chooses to give. Especially is this the case with unskilled female laborers. The iron law of supply and demand—the law of greed and selfishness—knows no sex, nor swerves, though a part of its fruit be starvation and sin."

"Now, the practical culture which alone can remedy this evil condition has been and may be afforded in self-supporting institutions. The working-women's colleges in London, Edinburgh, Dublin, in every town in Belgium, and in every considerable city in Germany, are mostly self-supporting, and are all flourishing and satisfactory."

[*Lecture on the Reform in the Education of Children by Miss Emma Marwedel.*]

The most prominent question of our day is *how to live!* It is not merely a phrase, but the centralized effort of thought and scientific investigation. In short, "how to live," has become the question of our time. We have outgrown the fanaticism which regarded a life of pain and trouble on this earth, the necessary account book for rewards in another world.

We are forced to see and to learn that man and his surroundings are effects of causes, and that man is responsible for man.

Starting from the idea that the state represents only a collection of men, and that the same laws which dictate the welfare of man dictate the welfare of the state, we are taught by scientific investigations, called statistics, and the laws of morals, that to *live well* each man has to serve himself and others. And the science to do this well, or the systematic development of all inborn faculties to be used in man, we call *education.*

Education being the science "to live well," we may see how the two bodies to which we trust the educational training of our young understand their mission.

SCHOOL AND HOME.

Repeating frequently the sentence "our time," it seems necessary to state that "our time," in regard to the science of education is a very short one, humanity and political economy giving birth to it. Its parents are hardly matured themselves; the child has been looked at only by those who foresee the gigantic, powerful, reforming greatness of a free-born child of such parentage. Nevertheless the child is alive; and still more, it grows and its nature is understood; but—and this is impossible—not by the large masses.

Comparing its principles with our actual habits and arrangements at home, and in our schools, we see how far we are from the commandments of a Pestalozzi, Spencer, John Stuart Mill, Crandle and Froebel. But how can we expect otherwise, finding that Herbert Spencer the Englishman, although the latest, speaks only of Pestalozzi the Swiss, of whom Froebel the German is a much more advanced pupil; and when we find that William Crandle, your countryman, speaks of none. And yet these five thinkers, although speaking in different tongues, and differing here and there in outside arrangements, are *au fond* one body.

They all command that to *live well*, we must serve ourselves and others; and to do this well we have to combine physical, moral, intellectual and industrial education, beginning at the earliest time, at the cradle, making primary education the most important.

Neither Herbert Spencer nor William Crandle having given a distinct systematic arrangement for their ideas, and Froebel being a pupil of Pestalozzi, I will try to give a short insight of his system, which he introduced practically and arranged systematically.

Frederich Froebel was a native of Oberweissbach, Germany, studied at the University of Jena, until called home by the death of his father, a clergyman. Compelled to earn his living, he became a teacher. Afterward, returning to his studies, he went to Jena and to Berlin, devoting a part of his time to teaching at a school on the plan of Pestalozzi.

In 1813 and '14 he entered the war. In 1816 he opened, in connection with two of his friends, a very large and successful college for boys. His writings not being clear, and very difficult to read, some nine or ten prominent thinkers and writers on education have tried to condense them and to make them readable. His system is known as the "Froebel," or "Kindergarten" system, and it is very much to be regretted that it has not been introduced under a different name in this country.

The first kindergarten was opened at Blankenburg, in 1837, the Prince of Meinengen giving a pleasant building for a normal training-school for *kindergartnerinnen.* A congress of teachers and *kindergartnerinnen*, held in 1851, declared the system a success; but the government of Prussia declared it to be the germ of socialism, and against religion, and its establishment in Prussia was forbidden. The same orders were given in the Kingdom of Saxony; but in the free city of Hamburg, under the inspiration and invitation of women, he started, in the same year, the first high school for the introduction of his system.

Froebel's method—a systematic education, beginning with the cradle—aims to manifest nature freely, giving opportunity to develop every inborn faculty according to individual strength and capacity; yet, far from being a mechanical drill, it uses play, and leads the child unconsciously to creation and invention by self-activity and self-reliance. The method awakens the intellect, renders the hand skillful by practical labor, develops taste and sense of beauty, supplies bodily exercise, accompanied by songs and graceful movements of every kind.

Social responsibility, increasing constantly, tends more to prevent evils than to remedy them. The study of human nature and the passions, the relation between causes and matter, the science of man, have to be made popular and practical before we can live well. The Froebel system solves this problem.

It supplies this want, dictates the laws—nature's grand laws of material, moral, spiritual and physical development.

In every human mind exists the divine power of creation, which is shown in an uncontrollable desire to achieve, to produce, or to destroy. It may be said that the desire to destroy is not an evidence of the power to create; but it must be remembered that evil is only prevented good, and destruction only creation inverted. On the uncontrollable desires, called "instincts"—the child's true nature—Froebel founded his system. The instincts to be preserved and developed in the child, according to Froebel, are the following:

1—THE LOVE OF PLAY.

The importance of play consists in the power it gives to create an independent world, absolutely our own; thus enlarging our existence, enabling us to forget for awhile the necessities of life, and to find happiness in the ideal world we are creating. This absolute freedom from toil is demanded more and more by our physicians, as much for older persons as for the young; and it has been for years a matter of earnest thought, and a subject of careful experiment in Europe. There no school or home is without a suitable playground. Switzerland educates her strong, healthy citizens in her games; in England there is Primrose Hill and the parks of London; the Boise de Boulogne in Paris, the public places in Belgium, and finally the German *Jugend-wehr* and *Turner* places for boys and young men, with their well-ordered swimming and fencing schools, recall the history of the ancient Olympic games.

What a great step toward living well would it be, in our family life, if fathers and mothers and children were able to unite more in play? "How to play," needs to become a study, a science to be perfected by the whole genius of the time.

Froebel's system begins with play and its invigorating effects. His "*Mutter und Koselieder*" (mother and cooing songs) show us how educational and bodily development should be carried on in infants. The natural love of play is systematized. His educational efforts turn play to work, and "lead through work to work." He follows nature freely, giving opportunity for every inborn faculty to develop in proportion to individual strength and capacity.

2.—THE LOVE OF CULTIVATING THE GROUND.

This instinct serves to develop the love of home, and to make home beautiful; leads the child to observe germination, and the budding and blooming of all life around it. Nature becomes to it, from the beginning, a *living body*, a dear, well-known friend. Geology, botany, chemistry, natural history, and all the physical sciences readily fall into its mind, it being thus awakened and prepared to receive them. The practical use and inspiration arising from such early preparation, to understand and study the laws of nature, can hardly be over-estimated in a country like America.

Humboldt says: "That while at present only a few insects are employed in the service of mankind, there might be found many more, and especially by the skillful observing eyes of properly educated women; and the same may be said about increasing the use of plants."

3.—THE LOVE OF PRODUCING—FORMING.

This becomes under systematic training the very genius of invention and art. None are so liable to rush into vice and crime as those who possess undeveloped creative power in the largest measure. The inventive power of Americans, left to accidental development has almost annihilated time and space. Your national pride, your self-made men, show the immense amount of vital spiritual forces. Let the children of America for the next quarter of a century be placed in kindergartens, and kindred institutions; let their wonderful native genius be systematically developed, and applied to forms of use and beauty; and conceive, if possible, the transformation in the external and internal lives of the people and in the material world around them, to say nothing of the purifying social effect of such a change. Think of the beautiful forms for the most practical needs found in Pompeii, that prove every potter to have been an artist. Every vase was made by the workman himself; there was a college for potters.

4.—LOVE OF MUSIC.

Froebel observes: "You hear rhythms in the first cooings of the babe." Its exquisite sensitiveness to sounds, is one of the finest instincts to be developed. As it grows, its little plays in the kindergarten are accompanied by music; and it is easily led to dramatic and musical representation of what occupies its childish thoughts.

What a blessing for the restless little ones, and the whole human race, when music shall charm our ears, and graceful movements exercise our limbs, instead of the coarse oaths and flying stones which are the main educational agencies now employed in plays and on our streets—the *chief American playgrounds.*

5.—THE LOVE OF KNOWLEDGE.

The ardent desire of children to know everything is too often rudely checked by the hasty answer, "Don't trouble me, I have no time"—stones for bread! Froebel meets this craving for information by object lessons. As the child brings us the plant raised by itself, taken up by the roots, and asks a question concerning it, the earth clinging to its little fingers, the first lesson is given in the process of germination, and he is taught how to set and care for it.

The most complete system of object lessons, in excellent working order, I saw in the so-called Birbeck schools, at London. A couple of children were learning reading and writing and spelling from and by lessons on a skeleton; taught at the same time with construction of the human body. Another group sat in the laboratory analyzing milk, another was busy over a collection of metals, still another examining an engine belonging to the school.

In this school was a globe, *en relief*, at least five feet in diameter. The walls were covered with all kinds of charming drawings, mostly executed by the children themselves. A number of blackboards of all sizes interested me exceedingly, as presenting various ornamental designs, with the children's names attached to them—absolutely individual!—from children all under thirteen years of age. A large aquarium, splendid casts and models for designs, besides hundreds of cards and maps illustrating architecture, natural history, engineering, geography and physiology, for object lessons, were found in this model school. The walls of the primary class-rooms were covered with cards, on which, for instance, were attached, in connection with the drawing of wheat, the straw, the ear, the flour, and different kinds of biscuits.

For the older classes were large show-cases, with arrangements like those at our agricultural bureau, namely, examples of everything, from the raw material to the manufactured, in all branches of industry. And these schools, with all their advantages, are mostly devoted to the poorer classes. No child pays more than a sixpence a week.

In 1867 four of these school-houses were built, each only one story high, and surrounded by play grounds so spacious that their boundaries were almost out of sight, furnished with all necessary apparatus for gymnastics and games; and for use in bad weather under the whole building was an open cellar. Wooden rolling doors, from twenty to twenty-five feet in width and of the same height, were always open.

Now, who started these model schools in London, in the center of this great city, where land is so expensive? you may ask. They were built by the generous originators of the system, as it seems, inspired by Pestalozzi, Froebel, Lancaster, and perhaps Mill, Spencer, and William Ellis, proprietor of a large factory for iron and brass work in London, also known as a writer and lecturer on political economy, and publisher of a series of school-books on his system.

While teaching the children of the Queen of England he introduced to them his theories on political economy. As soon as he finds a teacher competent to work out his ideas of instruction he builds another school-house, furnishing it with the necessary apparatus, and gives the whole to a teacher to act independently. The oldest establishment of this kind is in Peckham (London city east), under the excellent care of Mr. Child. It contains more than 1,000 children. The large doors opening into the yard stand always open, but so deeply interested are the children in their studies that not one was ever known to run home. Once every week Mr. Ellis himself gives a lesson on political economy. Nothing more and nothing less than a mutual conversation in which 1,000 children, amphitheatrically seated, from the largest to the smallest, are most deeply interested; eliciting reflection, elevation of mind, reasoning, practical observation, and inculcating especially a sense of right and wrong. They are true masterpieces of the art of instruction. Once the lesson was as follows: A boy was requested to write an order for coal on the blackboard, which was then criticised and corrected. From this order, as a starting point, Mr. Ellis drew out questions about coal, as a substance—What is it? How and where is it procured and produced in our country? Where made use of, or to what countries exported? How exported? What do we receive as equivalent value? What would be the amount of the bill in this case? How would it be paid? etc. Closing with the money market, and the necessary morals and obligations in all money matters.

It was after one of these admirable lessons that Mr. Ellis, on his road home, as we were passing some well-built alms-houses, remarked to me: "If we had schools as richly endowed as those structures, we should need no such asylums."

6.—THE LOVE OF SOCIETY.

"What shall be done to keep our children out of bad company?" is the constant anxious inquiry of careful parents, who cannot bear to deprive their children of pleasure. Froebel's plan is to encourage the friendships of children, and to make the children themselves immediately instrumental in educating one another. They are thus taught to esteem each other, to deny and subordinate themselves, to be just and true, in short, to co-operate harmoniously for useful purposes in miniature communities.

Our whole life in marriage, in family, in society, in church and state, is nothing but co-operation. In its true sense, the highest idea of self-denial and self-content. The way to live well! How far our life is from the realization of this ideal is too painfully apparent in all our endless battles for justice, and in the narrowness of our social life.

Children must be taught—taught before their own thoughts and views have been misdirected, so that they will unconsciously remodel the homes of our time. They must be trained for the duties of a large, broad republicanism and social responsibility, to be borne equally by men and women! Self-activity, self-disposal, self-responsibility, all cultivated for the sake of general welfare only, will produce living results, never attained by abstract book-learning—as we are trying in our schools at present to do.

7.—LOVE FOR SPIRITUAL LIFE.

The cultivation of the finer qualities of the mind and their application to the daily uses of life lays the foundation for a fine character, nourishes the inborn higher faculties into a healthy, vigorous spiritual body, which will be too much occupied with doing right to find time for nourishing evil thoughts, or cultivating inherited evil propensities. While the child is learning to see throughout nature the spiritual forces which form its life, its love for a higher state of existence than the material one is constantly cherished.

This system (I give a very incomplete description in regard to its deep philosophical reform), has been recognized by all friends of education and civilization as the best method to remodel our schools, and if possible our homes. Nearly a quarter of a century in practical and popular operation in Europe, it has proved highly successful. Two associations of the leading friends of education and civilization in Prussia and Austria, presided over by the Empresses of the two nations, have recently taken fresh steps toward extending its advantages to all children, "rich and poor," using their influence before the "Reichstag" to secure its adaptation and promote its application to the whole school period, so that children of all ages may be taught on the Froebel method. They formed an international association, urging all nations to join in the supporting and strengthening the great reform work which they have in view. A congress of European philosophers have announced the introduction and promotion of the Froebel system to be its highest and most practical aim. The philosopher, Professor Fichter, in his book, "The National Education of our Time," says in regard to the Froebel system: "It is the only safety from moral and physical destruction;" and our latest European news tells of the project of establishing at Berlin a large kindergarten training-school for mothers, teachers and nurses, teaching how to develop children from the first day in life until the age of nine years.

I am glad to say nearly all practical efforts in regard to the establishment of kindergartens have been the work of women, and Baroness von Mahren Bulow, its first disciple, who has introduced the system already under five different tongues, was quite lately requested by the liberal political party in Italy to introduce it there. She stands equal to Miss Elizabeth P. Peabody in this country.

Twenty years ago, William L. Crandle, of Syracuse, in his excellent work, "Three Hours a Day," wrote as follows: "It is to *make* men, not to *fill* them, that we want schools. Our public schools, therefore, should embrace the science of man, the science of agriculture, the science of mechanics, the science of drawing, the science of housewifery. We thus enter upon the domain of nature, and the moment we do that our range is unlimited."

With these prophetic words, William Crandle leads unconsciously to Froebel's system and its extension, the so-called youth-gardens—adapted to children of all ages, and to the whole school period. Its advantages should be extended to boys and girls alike, and to all children equally in our public schools. Such an extension only, and nothing else, will teach our children how to *live well;* supplying the great defects of our present one-sided school system, so rigid, so unhealthy, so impractical; of which Professor C. O. Thompson, of the Free Industrial School at Worcester, has said: "The difference between the common school of the North and that of the South is vast; between that of the South and none at all is as great as the difference between a draught of cold water to a thirsty soul and death; between that of the North as it is and as it is to be, immeasurable!"

From play to work, or through work to work, the kindergarten must be extended and enlarged in its form and its aim. It must include the normal training of its own teachers from the beginning, which will also be the true training for the coming duties as parents.

John Stuart Mills says "that boys and girls need to be educated for the duties of home life, and the bringing up of children." Youth-gardens must become the practical and theoretical training-schools for both sexes, under obligations not to leave them until they shall have learned to serve themselves and others. Girls will issue from such schools with knowledge of the most important, but most neglected duties of social and domestic life. Half grown girls will help to instruct little children, and share their sports and joys, educating themselves to self-denial, justice and trustfulness by actual experience. Teachers acquainted with the system, qualified in various branches of mechanics, are to be engaged; there must be classes for the science of health and anthropology, for the teaching of housekeeping and needlework to girls, for drawing (the key to every industrial and artistic pursuit); agriculture and horticulture properly belong to such schools. Teachers of different nationalities have to support the learning of foreign languages by mutual conversation, and the earliest training, supported by songs, plays and a suitable system of learning words will enable every child, when not without any talent for foreign languages, to enter the study of "comparing grammar" at an early age. How to introduce and combine kindergartens and youth-gardens with our public instruction is the open question of the day. What a difference in Cornell University; what a difference in all our colleges and universities, if they should stand behind kindergartens and youth-gardens, instead of before them. What a difference in regard to our draughtsmen and mechanics, our artists and practical science investigators; what a difference, finally, in regard to our daughters, the coming mothers, educated and developed in the highest sense to serve themselves and others.

Canton Zurich, in the Republic of Switzerland, has lately formed a new law, directing as follows: Every secondary district has to establish at least one school under the name of "civil school"—instruction free—for both sexes from fifteen to twenty years of age; lectures are given in history, natural history, physics, and all branches of general interest; also in the constitutional laws of the state, and civil rights, in the administration of the states and cantons, in the organization of the states and their divisions.

For young men: military exercises, and for four years exercises with arms.

For separate section: instruction for mechanics, theoretical and practical; instruction for farmers and agriculturalists.

For young girls: instruction in housekeeping; education and training for children, and to develop and instruct them; instruction in hygiene.

The workmen of England, guided by their leaders, John Bright and Disraeli, have requested the starting of similar schools. The republican power concentrated in the American system attracts a whole world's admiration; and young as is their work, it has and will perfect itself under the laws of humanity and political economy. America has open eyes and open ears, she has open hands, and a mind open to reason, she has justice and enthusiasm; once convinced, and the kindergarten and youth-garden will not long remain an open question.

No nation can simply copy or imitate the institutions of another, but every nation may profit by the experience of another. This fact will induce us to originate plans of our own, in full accord with our own national institutions. The American Kindergarten will as necessarily differ from the European, as our own Public Schools differ from those of Europe. The same will be the case with our future Labor and Polytechnic Schools. In the East a beginning has been made, and we in the West cannot afford to delay any longer. But whatever is done, should be done on the smallest possible scale to avoid waste of money and energy. The first requisite of any new undertaking is a person thoroughly qualified and experienced, and to him only should be entrusted the organization, and to a great extent, the management. Such a person will soon surround himself with suitable elements that are able and willing to assist in carrying out successfully his ideas.

DIFFERENT STUDIES.

I take pleasure in stating that commendable progress has been made in the different studies pursued in the Public Schools; and if the teachers continue in their efforts to free themselves from slavish adherence to text books and rote-teaching, we may look for the most flattering results in the future.

Free Hand and Industrial Drawing.—This branch of education has not been introduced for the purpose of making artists. Its object is simply to prepare and better qualify children to become good mechanics, inventive designers, and skillful architects, or to enable them to pursue any other calling more successfully. Drawing refines the mind, develops the perceptive faculties, and cultivates taste. It would be, in fact, difficult to suggest any other study of greater educative value, and of a more general application in life. The ability to draw or to sketch assists materially in the acquisition of positive knowledge in almost every branch, and should therefore receive its due share of attention in all the grades. The results already attained justify the prediction that drawing will be regarded as one of the most essential studies to be pursued in the public schools; not solely for its bearing on practical life, but also for its ethical influence; for a cultivated and refined mind cannot and will not yield to sordid propensities. The specimens of industrial drawing now furnished by our pupils reflect very creditably on both teachers and pupils.

Penmanship evidently does not receive like attention in all the schools; for, in some schools, the pupils show, even in the lowest grades, a proficiency in penmanship vainly looked for in higher grades of others. A careful drill on the elements, and incessant attention paid to every exercise in writing, are the first requisites to attain satisfactory results. The frequent use of copy-books is less calculated to improve penmanship than the inexorable rule, never to receive any written exercise unless it shows evidence of the very best efforts on the part of the pupil.

The branch of instruction taught in the least satisfactory manner is *Reading*. Many children pass through several grades before they are able to call words at sight and learn to read with tolerable fluency. This defect arises mainly from an imperfect understanding and application of the so-called word-method. Inexperienced teachers allow themselves to be deceived by the readiness with which children recite their memorized reading lessons, and omit, therefore, the indispensable analytical and synthetical exercises, written as well as oral, calculated to acquaint the child with the power and force of each individual letter. In the more advanced grades, children are frequently wonderfully ignorant of the meaning of even common words, and not unfrequently almost entirely unconscious of the ideas and sentiments expressed. These serious faults may be safely ascribed to the unwarrantable presumption, on the part of the inexperienced, that common words of the mother-tongue require no special attention and explanation, and to the undue haste, on the part of teachers, to drill their classes in elocutionary reading, before a perfect understanding of the subject-matter has been secured. The power of expression depends, at all times, upon the power of comprehension. In other words, logical reading must precede the elocutionary, to avoid distasteful affectation, and to open the only avenue to our children for self-improvement in after life; for the lore of the world is stored in books, and the ability to extract it from them must be acquired during school life. If this is lost sight of, the school fails to accomplish one of its most important purposes.

Rational methods must be deduced from principles—must be built up, as it were, on principles—else the whole superstructure has no foundation, but rests in the air, and must soon degenerate into deadening mannerism, calculated to suppress and stifle the native powers of the mental productivity of the children and condemn them to passive receptivity and barren recital.

"The education of the child must accord, both in mode and arrangement, with the education of mankind, as considered historically."—[Spencer.] In other words, the history of any branch of instruction suggests its own method.

"First the idea, then the sign." Man thinks first and then he speaks; and because he desires to communicate he invents words, signs; the idea, thought, is therefore the creator of the word, and without the idea words are mere empty shells, which cannot awaken an interest in the eagerly absorbing mind of our children; they are, in fact, mere ballast on the memory, and are, in consequence thereof, speedily rejected and forgotten. The children ask for bread and we give them stones.

In teaching children to read, two very distinct elements must be discriminated and separately treated of. The first element is the logical, or the thoughts expressed—the contents, or subject-matter; the second, the phonetic, or the words in which the thoughts are expressed. By means of conversation and explanation, the child must first be made quite familiar with the subject-matter before expressive and intelligent reading can be expected. The interrogatives who? whose? whom? which? what? what kind? how many? where? when? why? etc., are the magic wands by means of which the teacher touches the mind of his pupils, and rouses it to reflection and productive activity. Has the child been thus familiarized with the contents, he will read in an expressive and intelligent manner, and will also be able to make a clear and comprehensive statement of the subject-matter in writing.

He who made the first attempt to write words phonetically must have operated as follows: First, he resolved words into their elementary sounds; he analyzed. Second, he invented a representative sign for each sound; he wrote. Third, he articulated the elementary sounds represented by signs; he read.

The principles here adduced indicate plainly the different steps to be taken in teaching reading in primary, as well as in advanced, classes.

The methods now pursued in the study of geography produce better results. Teachers carefully avoid teaching that surplus of minute details of political geography which encumbers our text-books. The time allotted to geography in the higher grades is mostly devoted to the study of physical geography. This is the more praiseworthy and commendable because it is the most instructive part, and about the only study pursued which acquaints children with nature and nature's law.

In arithmetic more attention is paid to the working of practical examples, and to the study of those branches which have a more direct bearing on the actual pursuits of life.

In the study of language especially, great changes have been effected, and a more rational method is pursued. The numerous technicalities of grammar are largely ignored or disregarded. Frequent exercises in parsing enabled pupils to analyze sentences, according to rules of grammar which are often arbitrary in the extreme; but in compositional exercises the bad effects of this incessant analysis became apparent. It was found that children were scarcely able to frame simple sentences and to express their own thoughts in correct language. Such results must always be expected, when analysis is not immediately followed by synthetical exercises. Had we teachers given the slightest attention or thought to the course of self-improvement adopted by Benjamin Franklin, we would not have groped in the dark in regard to rational methods of teaching language.

At the moment of closing my report, I received from E. Steiger, of New York, the appended lecture, which I deem of such great importance that I cannot refrain from having it here re-printed for the benefit of all interested in the reform of popular education:

THE SCIENCE AND ART OF EDUCATION.

At the beginning of last year I delivered, in this room, a lecture intended to inaugurate the Course of Lectures and Lessons on the Science and Art of Education, which the Council of the College of Preceptors had appointed me to undertake. The experiment then about to be tried was a new one in this country; for, although we have had for some years Colleges intended to prepare Elementary Teachers for their work, nothing of the kind existed for Middle Class and Higher Teachers. As I stated in that Inaugural Lecture, the Council of the College of Preceptors, after waiting in vain for action on the part of the Government or of the Universities, and attempting, also in vain, to obtain the influential co-operation of the leading scholastic authorities in aid of their object, resolved to make a beginning themselves. They, therefore, adopted a scheme laid before them by one of their colleagues—a lady—and offered the first Professorship of the Science and Art of Education to me.

We felt that some considerable difficulties lay in the way of any attempt to realize our intentions. Among these, there were two especially on which I will dwell for a few minutes. The first was the opinion very generally entertained in this country, that there is no Science of Education; that is, that there are no fixed principles for the guidance of the Educator's practice. It is generally admitted that there is a Science of Medicine, of Law, of Theology; but it is *not* generally admitted that there is a corresponding Science of Education. The opinion that there is no such Science was, as we know, courageously uttered by Mr. Lowe, but we also know that there are hundreds of cultivated professional men in England, who silently maintain it, and are practically guided by it. These men, many of them distinguished proficients in the *Art* of teaching, if you venture to suggest to them that there must be a correlated *Science* which determines—whether they are conscious of it or not—the laws of their practice, generally by a significant smile let you know their opinion both of the subject and of yourself. If they deign to open their lips at all, it is to mutter something about "Pedagogy," "frothy stuff," "mere quackery," or to tell you point-blank that if there is such a Science, it is no business of theirs; they do very well without it. This opinion, which they, no doubt, sincerely entertain, is, however, simply the product of thoughtlessness on their part. If they had carefully considered the subject in relation to themselves—if they had known the fact that the Science which they disclaim or denounce has long engaged the attention of hundreds of the profoundest thinkers of Germany—many of them teachers of at least equal standing to their own—who have reverently admitted its pretensions, and devoted their great powers of mind to the investigation of its laws, they would, at least, have given you a respectful hearing. But great, as we know, is the power of ignorance, and it will prevail—for a time. There are, however, even now, hopeful signs which indicate a change of public opinion. Only a week ago, a leader in *The Times* called attention to Sir Bartle Frere's conviction expressed in one of his lectures in Scotland, that "the acknowledged and growing power of Germany is intimately connected with the admirable education which the great body of the German nation are in the habit of receiving." The education of which Sir Bartle Frere thus speaks, is the direct result of that very science which is so generally unknown, and despised, because unknown, by our cultivated men, and especially by many of our most eminent teachers. When this educated power of Germany, which has already shaken to its centre the boasted military reputation of France, does the same for our boasted commercial reputation, as Sir Bartle Frere and others declare that it is even now doing, and for our boasted engineering reputation, as Mr. Mundella predicts it will do, unless we look about us in time, the despisers of the Science of Education will adopt a different tone, and perhaps confess themselves in error; at all events, they will betake themselves to a modest and respectful silence. No later back than yesterday, (January 19,) *The Times* contained three letters bearing on Sir Bartle Frere's assertion that the increasing commercial importance of Germany is due mainly to the excellence of German education. One writer refers to the German *Realschulen* or Thing-Schools and to the High Schools of Commerce, in both of which the practical study of matters bearing on real life is conducted. Another writer, an Ex-Chairman of the Liverpool Chamber of Commerce, says: "I have no hesitation in stating that young Germans make the best business men, and the reason is, that they are usually better educated; I mean by this, they have a more thorough education, which imparts to them accuracy and precision. Whatever they do, is well and accurately done; no detail is too small to escape their attention, and this engenders a habit of thought and mind, which in after-life makes them shrewd and thorough men of business. I think the maintenance of our commercial superiority is very much of a schoolmaster's question." A third writer speaks of the young German clerks sent out to the East as "infinitely superior" in education to the class of young men sent out from England, and ends by saying: "Whatever be the cause, there can be no question that the Germans are outstripping us in the race for commercial superiority in the far East."

Some persons, no doubt, will be found to cavil at these statements; the only comment, however, I think it necessary to make, is this: "Germany is a country where the Science of Education is widely and profoundly studied, and where the Art is conformed to the science." I leave you to draw your own inferences. Without, however, dwelling further on this important matter, though it is intimately connected with my purpose, I repeat that this dead weight of ignorance in the public mind respecting the true claims of the Science of Education, constitutes one of the difficulties with which we have had to contend. The writer of a leading article in *The Times*, January 10, said emphatically: "In truth, there is nothing in which the mass of Englishmen are so much in need of education as in appreciating the value of Education itself." These words contain a pregnant and melancholy truth, which will be more and more acknowledged as time moves on.

But there was another difficulty, of scarcely less importance, with which we had to contend, and this is the conviction entertained by the general body of teachers that they have nothing to learn about Education. We are now descending, be it remembered, from the leaders to the grand band of mere followers, from the officers of the army to the rank and file. My own experience, it may well be believed, of teachers, has been considerable. As the net result of it, I can confidently affirm that until I commenced my class in February last, I never came in contact with a dozen teachers who were not entirely satisfied with their own empirical methods of teaching. To what others had written on the principles of Education—to what these had reduced to successful practice—they were, for the most part, profoundly indifferent. To move onward in the grooves to which they had been accustomed in their school-days, or, if more intelligent, to devise methods of their own, without any respect to the experience, however enlightened, of others, was, and is, the general practice among teachers. For them, indeed, the great educational authorities, whether writers or workers, might as well never have existed at all. In short, to repeat what I said before, teachers, as a class, (there are many notable exceptions), are so contented with themselves and their own methods of teaching, that they complacently believe, and act on the belief, that they have nothing at all to learn from the Science and Art of Education; and this is much to be regretted for their own sakes, and especially for the sake of their pupils, whose educational health and well-being lie in their hands. However this may be, the fact is unquestionable, that one of the greatest impediments to any attempt to expound the principles of Education lies in the unwarrantable assumption on the part of the teachers that they have nothing to learn on the subject. Here, however, as is often the case, the real need for a remedy is in inverse proportion to the patient's consciousness of the need. The worst teachers are generally those who are most satisfied with themselves, and their own small performances.

The fallacy, not yet displaced from the mind of the public, on which this superstructure of conceit is raised, is that "he who knows a subject can teach it." The postulate, that a teacher should thoroughly know the subject he professes to teach, is by no means disputed, but it is contended that the question at issue is to be mainly decided by considerations lying on the pupil's side of it. The process of thinking, by which the pupil learns, is essentially his own. The teacher can but stimulate and direct, he cannot supersede it. He cannot do the thinking necessary to gain the desired result for his pupil. The problem, then, that he has to solve, is how to get his pupil to learn; and it is evident that he may know the subject without knowing the best means of making his pupil know it too, which is the assumed end of all his teaching. He may be an adept in his subject, but a novice in the art of teaching it—an art which has principles, laws, and processes peculiar to itself.

But, again; a man, profoundly acquainted with a subject, may be unapt to teach it by reason of the very height and extent of his knowledge. His mind habitually dwells among the mountains, and he has, therefore, small sympathy with the toiling plodders on the plains below. The difficulties which beset their path have long ceased to be a part of his own experience. He cannot then easily condescend to their condition, place himself alongside of them, and force a sympathy he cannot naturally feel, with their trials and perplexities. Both these cases tend to the same issue, and show that it is a fallacy to assert that there is any necessary connection between knowing a subject and knowing how to teach it.

Our experiment was commenced on the 6th of February last. On the afternoon of that day, only seventeen teachers had given in their names as members of the class that was to be formed. In the evening, however, to my surprise, I found no fewer than fifty-one awaiting the lecture. This number was increased in a few weeks to seventy, and on the whole, there have been eighty members in the course of the year. Having brought our little history down to the commencement of the lectures in 1873, I propose to occupy the remainder of our time with a brief account of what was intended, and what has been accomplished by them.

Generally speaking, the intention was to show (1) that there is a Science of Education, that is, that there are principles, derived from the nature of the mind, which furnish laws for the educator's guidance; (2) that there is an Art founded on the Science, which will be efficient or inefficient in proportion to the educator's conscious knowledge of its principles.

It will be, perhaps, remembered by some now present, that I gave in my Inaugural Lecture a sketch of the manner in which I intended to treat these subjects. As, however, memories are often weak, and require to be humored, and as repetition is the teacher's sheet-anchor, I may, perhaps, be excused if I repeat some of the matter then brought forward, and more especially as I may calculate that a large proportion of my audience were not present last year.

I had to consider how I should treat the Science of Education, especially in relation to such a class as I was likely to have. It was to be expected that the class would consist of young teachers, unskilled in the art of teaching, and perhaps even more unskilled in that of thinking. Such in fact they, for the most part, proved to be. Now, the Science of Education is a branch of Psychology, and both Education and Psychology, as sciences, may be studied either deductively or inductively. We may commence with general propositions, and work downward to the facts they represent, or upward from the facts to the general propositions. To students who had been mainly occupied with the concrete and practical, it seemed to me much better to commence with the concrete and practical; with facts rather than with abstractions. But what facts? That was the question. There is no doubt that a given art contains in its practice, for eyes that can truly see, the principles which govern its action. The reason for doing may be gathered from the doing itself. If, then, we could be quite sure beforehand that perfect specimens of practical teaching, based on sound principles, were accessible, we might have set about studying them carefully, with a view to elicit the principles which underlie the practice, and in this way we might have arrived at a Science of Education. But then this involves the whole question: Who is to guarantee dogmatically the absolute soundness of a given method of teaching, and if any one comes forward to do this, who is to guarantee the soundness of his judgment? It appears, then, that although we might evolve the principles of medicine from the general practice of medicine, or the principles of engineering from the general practice of engineering, we cannot evolve the principles of education from the general practice of education as we actually find it. So much of that practice is radically and obviously unsound, so little of sequence and co-ordination is there in its parts, so aimless generally is its action, that to search for the Science of Education in its ordinary present practice would be a sheer waste of time. We should find, for instance, the same teacher acting one day, and with regard to one subject, on one principle, and another day, or with regard to another subject, on a totally different principle, all the time forgetting that the mind really has but one method of learning so as to really know, though multitudes of methods may be framed for giving the semblance of knowing. We see one teacher, who is never satisfied until he secures his pupils' possession of clear ideas upon a given subject; another, who will let them go off with confused and imperfect ideas; and a third, who will think his duty done when he has stuffed them with mere words—with husks instead of grain. It is then perfectly clear that we cannot deduce the principles of true science from varying practice of this kind; and if we confine ourselves to inferences drawn from such practice, we shall never know what the Science of Education is. Having thus shut ourselves off from dealing with the subject by the high *a priori* method, commencing with abstract principles, and also from the unsatisfactory method of inference founded on various, but generally imperfect practice; and being still resolved, if possible, to get down to a solid foundation on which we might build a fabric of science, we were led to inquire whether *any* system of education is to be found, constant and consistent in its working, by the study of which we might reach the desired end. On looking round we saw that there *is* such a system continually at work under our very eyes,—one which secures definite results, in the shape of positive knowledge, and trains to habit the powers by which these results are gained—which cannot but be consistent with the general nature of things, because it is *Nature's own*. Here, then, we have what we are seeking for—a system working harmoniously and consistently towards a definite end, and securing positive results—a system, too, strictly educational, whether we regard the development of the faculties employed, or the acquisition of knowledge, as accompanying the development—a system in which the little child is the pupil and Nature the educator.

Having gained this stand-point, and with it a conviction that if we could only understand this great educator's method of teaching, and see the true connection between the means he employs and the end he attains, we should get a correct notion of what is really meant by education; we next inquire, "How are we to proceed for this purpose?" The answer is: By the method through which other truths are ascertained—by investigation. We must do what the chemist, the physician, the astronomer do, when they study their respective subjects. We must examine into the facts, and endeavor to ascertain, first, what they are; secondly, what they mean. The bodily growth of the child from birth is, for instance, a fact, which we can all observe for ourselves. What does it mean? It means that, under certain external influences—such as air, light, food—the child increases in material bulk and in physical power; that these influences tend to integration, to the forming of a whole; that they are all necessary for that purpose; that the withholding of any one of them leads to disintegration or breaking up of the whole. But as we continue to observe, we see, moreover, evidences of mental growth. We witness the birth of consciousness; we see the mind answering, through the senses, to the calls of the external world, and giving manifest tokens that impressions are both received and retained by it. The child "takes notice" of objects and actions, manifests feelings of pleasure or pain in connection with them, and indicates a desire or will to deal in his own way with the objects, and to take part in the actions. We see that this growth of intellectual power, shown by his increasing ability to hold intercourse with things about him, is closely connected with the growth of his bodily powers, and we derive from our observation one important principle of the Science of Education, that *mind and body are mutually interdependent, and co-operate in promoting growth.*

We next observe that as the baby, under the combined influence of air, light, and food, gains bodily strength, he augments that strength by continually exercising it; he uses the fund he has obtained, and, by using, makes it more. Exercise reiterated, almost unremitting; unceasing movement, apparently for its own sake, as an end in itself; the jerking and wriggling in the mother's arms, the putting forth of his hands to grasp at things near him, the turning of the head to look at bright objects; this exercise, these movements constitute his very life. He lives in them, and by them. He is urged to exercise by stimulants from without; but the exercise itself brings pleasure with it (*labor ipse voluptas*), is continued on that account, and ends in increase of power. What applies to the body, applies also, by the foregoing principle, to the intellectual powers, which grow with the infant's growth, and strengthen with his strength. Our observation of these facts furnishes us, therefore, with a second principle of education:—*Faculty of whatever kind grows by exercise.* Without changing our ground we supplement this principle by another. We see that the great educator who prompts the baby to exercise, and connects pleasure with all his voluntary movements, makes the exercise effectual for the purpose in view by constant reiteration. Perfection in action is secured by repeating the action thousands of times. The baby makes the same movements over and over again; the muscles and the nerves learn to work together, and habit is the result. Similarly in the case of the mind, the impressions communicated through the organs of sense grow from cloudy to clear, from obscure to definite, by dint of endless repetition of the functional act. By the observation of these facts we arrive at a third principle of education:—*Exercise involves repetition, which, as regards bodily actions, ends in habits of action, and as regards impressions received by the mind, ends in clearness of perception.*

Looking still at our baby as he pursues his education, we see that this manifold exercise is only apparently an end in itself. The true purpose of the teaching is to stimulate the pupil to the acquisition of knowledge, and to make all these varied movements subservient to that end. This exercise of faculty brings the child into contact with the properties of matter, initiates him into the mysteries of hard and soft, heavy and light, etc., the varieties of form, of round and flat, circular and angular, etc., the attractive charms of color. All this is knowledge, gained by reiterated exercise of the faculties, and stored up in the mind by its retentive power. We recognize the baby as a practical inquirer after knowledge for its own sake. But we further see him as a discoverer, testing the properties of matter by making his own experiments upon it. He knocks the spoon against the basin which contains his food; he is pleased with the sound produced by his action, and more than pleased, delighted, if the basin breaks under the operation. He throws his ball on the ground, and follows its revolution with his enraptured eye. What a wonderful experiment it is! How charmed he is with the effect he has produced! He repeats the experiment over and over again with unwearied assiduity. The child is surely a Newton, or a Faraday, in petticoats. No, he is simply one of Nature's ordinary pupils, inquiring after knowledge, and gaining it by his own unaided powers. He is teaching himself, under the guidance of a great educator. His self-teaching ends in development and growth, and it is, therefore, strictly educational in its nature. In view of these facts we gain a fourth principle of the Science of Education:—*The exercise of a child's own powers, stimulated but not superseded by the educator's interference, ends both in the acquisition of knowledge and in the invigoration of the powers for further acquisition.*

It is unnecessary to give further illustrations of our method. Every one will see that it consists essentially in the observation and investigation of facts, the most important of which is, that we have before us a pupil going through a definite system of education. We are convinced that it is education, because it develops faculty, and, therefore, conduces to development and growth. By close observation we detect the method of the master, and see that it is a method which repudiates cramming rules and definitions, and giving wordy explanations, and secures the pupil's utmost benefit from the work by making him do it all himself, through the exercise of his unaided powers. We thus get a clue to the construction of a Science of Education, to be built up, as it were, on the organized compound of body and mind, to which we give the name of baby. Continuing still our observation of the phenomena it manifests, first, in its speechless, and afterwards in its speaking condition, we gain other principles of education; and lastly, colligating and generalizing our generalizations, we arrive at a definition of education as carried on by Nature. This may be roughly expressed thus: *Natural education consists in the development and training of the learner's powers, through influences of various kinds, which are initiated by action from without, met by corresponding reaction from within.*

Then assuming, as we appear to have a right to do, that this natural education should be a model or type of formal education, we somewhat modify our definition thus:

Education is the development and training of the learner's native powers by means of instruction carried on through the conscious and persistent agency of the formal educator, and depends upon the established connection between the world without and the world within the mind—between the objective and the subjective.

I am aware that this definition is defective, inasmuch as it ignores—or appears to ignore—the vast fields of physical and moral education. It will, however, serve my present purpose, which is especially connected with intellectual education.

Having reached this point, and gained a general notion of a Science of Education, we go on to consider the Art of Education, or the practical application of the Science. We are thus led to examine the difference between Science and Art, and between Nature and Art. Science tells us what a thing is, and why it is what it is. It deals, therefore, with the nature of the thing, with its relations to other things, and consequently with the laws of its being. Art derives its rules from this knowledge of the thing and its law of action, and says: "Do this or that with the thing in order to accomplish the end you have in view. If you act otherwise with it, you violate the laws of its being." Now the rules of Art may be carried out blindly or intelligently. If blindly, the worker is a mere artisan—an operative who follows routine, whose rule is the rule-of-thumb. If intelligently, he is a true artist, who not only knows what he is doing, but why this process is right and that wrong, and who is furnished with resources suitable for guiding normal, and correcting abnormal, action. All the operations of the true artist can be justified by reference to the principles of Science. But there is also a correlation between Nature and Art. These terms are apparently, but not really, opposed to each other. Bacon long ago pointed out the true distinction when he said: *Ars est Homo additus Naturæ*—Art is Nature with the addition of Man—Art is Man's work added to (not put in place of) Nature's work. Here, then, is the synthesis of Nature and Man which justifies us in saying that natural education is the type or model of formal, or what we usually call, without an epithet, education, and that the Art of Teaching is the application by the teacher of laws of Science, which he has himself discovered by investigating Nature. This is the key-stone of our position; if this is firm and strong, all is firm and strong. Abandon this position and you walk in darkness and doubt, not knowing what you are doing or whither you are wandering—at the mercy of every wind of doctrine.

The artist in education, thus equipped, is ready not only to work himself, but to judge of the work of others. He sees, for instance, a teacher coldly or sternly demanding the attention of a little child to some lesson, say in arithmetic. The child has never been led up gradually to the point at which he is. He has none but confused notions about it. The teacher, without any attempt to interest the child, without exhibiting affection or sympathy towards him, hastily gives him some technical directions, and sends him away to profit by them as he may—simply orders him to learn," and leaves him to do so alone. Our teacher says: "This transaction is inartistic. The element of humanity is altogether wanting in it. It is not in accordance with the Science of Education; it is a violation of the Art. The great educator in his teaching, presents a motive and an object for voluntary action; and, therefore, excites attention towards the object by enlisting the feelings in the inquiry. He does not, it is true, show sympathy, because he acts by inflexible rules. But the human educator, as an artist, is bound not only to excite an interest in the work, but to sympathize with the worker. This teacher does neither. His practice ought to exemplify the formula, *Ars* = *Natura* + *Homo*. He leaves out both *Natura* and *Homo*. His *Ars*, therefore, = 0."

Another case presents itself. Here the teacher does not leave the child alone; on the contrary, is continually by his side. At this moment he is copiously "imparting his knowledge" of some subject to his pupil, whose aspect shows that he is not receiving it, and who, therefore, looks puzzled. The matter, whatever it is, has evidently little or no relation to the actual condition of the child's mind, in which it finds no links of association and produces no intellectual reaction, and which, therefore, does not co-operate with the teacher's. He patiently endures, however, because he cannot escape from it, the down-pouring of the teacher's knowledge; but it is obvious that he gains nothing from it. It passes over his mind as water passes over a duck's back. The subject of instruction, before unknown, remains unknown still. Our artist teacher, looking on, pronounces that this teaching is inartistic, as not being founded on Science. "The efficiency of a lesson is to be proved," he says, "by the part taken in it by the pupil; and here the teacher does all the work, the pupil does nothing at all. It is the teacher's mind, not the learner's, that is engaged in it. Our great master teaches by calling into exercise the *learner's* powers, not by making a display of his own. The child will never learn anything so as to possess it for himself by such teaching as this, which accounts the exercise of his own faculties as having little or nothing to do with the process of learning."

Once more; our student, informed in the Science of Education, watches a teacher who is giving a lesson on language—say, on the mother-tongue. This mother-tongue the child virtually knows how to use already; and if he has been accustomed to educated society, speaks and (if he is old enough to write) writes it correctly. The teacher puts a book into his hand, the first sentence of which is: "English grammar is the art of speaking and writing the English language correctly." The child does not know what an "art" is, nor what is meant by speaking English "correctly." If he is intelligent, he wonders whether he speaks it "correctly" or not. As to the meaning of "art," he is altogether at sea. The teacher is aware of the perplexity, and desiring to make him really understand the meaning of the word, attempts an explanation. "An art," he says (getting the definition from a dictionary), "is a power of doing something not taught by Nature." The child stares with astonishment, as if you were talking Greek or Arabic. What can be meant by a "power"—what by "being taught by Nature?" The teacher sees that this explanation has only made what was dark before darker still. He attempts to explain his explanation, and the fog grows thicker and thicker. At last he gives it up, pronounces the child stupid, and ends by telling him to learn by rote—that is, by hurdy-gurdy grind—the unintelligible words. *That* at least the child can do (a parrot could be taught to do the same), and he does it; but his mind has received no instruction whatever from the lesson—the intelligence which distinguishes the child from the parrot remains entirely uncultivated.

Our teacher proceeds to criticise. "This is," he says, "altogether inartistic teaching." Our great master does not begin with definitions—and indeed gives no definitions—because they are unsuited to his pupil's state of mind. He begins with facts which the child can understand, because he observes them himself. This teacher should have begun with facts. The first lesson in Grammar (if indeed it is necessary to teach Grammar at all to a little child) should be a lesson on the *names* of the *objects* in the room—objects which the child sees and handles, and knows by seeing and handling—that is, has ideas of them in his mind. "What is the name of this thing and that?" he inquires, and the child tells him. The ideas of the things, and the names by which they are known, are already associated together in his consciousness, and he has already learned to translate things into words. The teacher may tell him (for he could not discover it for himself) that a *name* may also be called a *noun*. "What then," the teacher may say, "is a noun?" The child replies: "*A noun is the name of a thing.*" He has constructed a definition himself—a very simple one certainly—but then it is a definition which he thoroughly understands because it is his own work. This mode of proceeding would be artistic, because in accordance with Nature. There would be no need to commit the definition to memory, as a mere collection of words, because what it means is already committed to the understanding which will retain it, because it represents facts already known and appreciated. Thoroughly *knowing* things is the sure way to *remember* them."

In some such way as this our expert brings the processes commonly called teaching to the touchstone of his Science, the Science which he has built up on his observation of the processes of Nature.

I am afraid that, in spite of my illustrations, I may still have failed to impress you as strongly as I wish to do with the cardinal truth, that you cannot get the best results of teaching unless you understand the mind with which you have to deal. There are, indeed, teachers endowed with the power of sympathizing so earnestly with children, that in their case this sympathy does the work of knowledge, or rather it is knowledge unconsciously exercising the power proverbially attributed to it. The intense interest they feel in their work almost instinctively leads them to adopt the right way of doing it. They are artists without knowing that they are artists. But, speaking generally, it will be found that the only truly efficient director of intellectual action is one who understands intellectual action—that is, who understands the true nature of the mind which he is directing. It is this demand which we make on the teacher that constitutes teaching as a psychological art, and which renders the conviction inevitable that an immense number of those who practice it do so without possessing the requisite qualifications. They undertake to guide a machine of exquisite capabilities, and of the most delicate construction, without understanding its construction or the range of its capabilities, and especially without understanding the fundamental principles of the science of mechanics. Hence the telling, cramming, the endless explaining, the rote-learning, which enfeeble and deaden the native powers of the child; and hence, as the final consequence, the melancholy results of instruction in our primary schools, and the scarcely less melancholy results in schools of higher aims and pretensions, all of which are the legitimate fruit of the one fundamental error which I have over and over again pointed out.

In accordance with these views, it has been insisted on throughout the entire Course of Lectures, that teaching, in the true sense of the term, has nothing in common with the system of telling, cramming, and drilling, which very generally usurps its name. The teacher, properly so called, is a man who, besides knowing the subject he has to teach, knows moreover the nature of the mind which he has to direct in its acquisition of knowledge, and the best methods by which this may be accomplished. He must know the subject of instruction thoroughly, because, although it is not he but the child who is to learn, his knowledge will enable him to suggest the points to which the learner's attention is to be directed; and besides, as his proper function is to act as a guide, it is important that he should have previously taken the journey himself. But we discountenance the notion usually entertained that the teacher is to know *because* he has to *communicate his knowledge* to the learner; and maintain, on the contrary, that his proper function as a teacher does *not* consist in the communication of his own knowledge to the learner, but rather in such action as ends in the acquisition of knowledge for himself. To deny this principle is to give a direct sanction to telling and cramming, which are forbidden by the laws of education. To tell the child what he can learn for himself, is to neutralize his efforts; consequently to enfeeble his powers, to quench his interest in the subject, probably to create a distaste for it, to prevent him from learning how to learn—to defeat, in short, all the ends of true education. On the other hand, to get him to gain knowledge for himself stimulates his efforts, strengthens his powers, quickens his interest in the subject and makes him take pleasure in learning it, teaches him how to learn other subjects, leads to the formation of habits of thinking; and, in short, promotes all the ends of true education. The obvious objection to this view of the case is, that as there are many things which the child cannot learn by himself, we must, of course, tell him them. My answer is, that the things which he cannot learn of himself are things unsuited to the actual state of his mind. His mind is not yet prepared for them; and by forcing them upon him prematurely, you are injuriously anticipating the natural course of things. You are cramming him with that which, although it may be knowledge to you, cannot possibly be knowledge to him. Knowing, in relation to the training of the mind, is the result of learning; and learning is the process by which the child teaches himself; and he teaches himself—he can only teach himself —by personal experience. Take, for instance, a portion of matter which, for some cause or other, interests him. He exercises his senses upon it, looks at it, handles it, etc., throws it on the ground, flings it up into the air; and while doing all this, compares it with other things, gains notions of its color, form, hardness, weight, etc. The result is, that without any direct teaching from you, without any *telling*, he knows it through his personal experience—he knows it, as we say, of his own knowledge; and has not only learned by himself something that he did not know before, but has been learning how to learn. But supposing that you are not satisfied with his proceeding thus naturally and surely in the career of self-acquisition, and you tell him something which he could not possibly learn by this method of his own. Let it be, for instance, the distance of the sun from the earth, the superficial area of Sweden, etc. When you have told him that the sun is 95 millions of miles from the earth, that the area of Sweden is so many square miles, you have evidently transcended his personal experience. What you have told him, instead of being knowledge gained, as in the other case, at first hand, is information obtained probably at tenth or even fiftieth hand, even by yourself, and it is, therefore, in no true sense of the word "knowledge" even to you, much less is it knowledge to him; and in telling it to him prematurely, you are cramming and not teaching him. Dr. John Brown (*Horæ Subsecivæ*, Second series, p. 473) well says: "The great thing with knowledge and the young is to secure that it shall be their own; that it be not merely external to their inner and real self, but shall go *in succum et sanguinem;* and, therefore, it is that the self-teaching that a baby and a child give themselves remains with them for ever. It is of their essence, whereas what is given them *ab extra*, especially if it be received mechanically, without relish, and without any energizing of the entire nature, remains pitifully useless and *wersh* (insipid). Try, therefore, always to get the resident teacher *inside the skin*, and who is for ever giving his lessons, to help you, and be on your side." You easily see from these remarks of Dr. Brown's, that he means what I mean; that matters of information obtained by other people's research, and which is true knowledge to those who have lawfully gained it, is not knowledge to a child who has had no share in the acquisition, and your dogmatic imposition of it upon his mind, or rather memory only, is of the essence of cramming. Such information is merely patchwork laid over the substance of the cloth as compared

3

with the texture of the cloth itself. It is *on*, but not *of*, the fabric. This expansive and comprehensive principle—which regards all learning by mere rote, even of such matters as multiplication-table or Latin declensions—before the child's mind has had some preliminary dealing with the facts of Number or of Latin—as essentially cramming, and, therefore, anti-educational in its nature—will be, of course, received or rejected by teachers, just in proportion as they receive or reject the conception of an art of teaching founded on psychological principles.

And this brings me to the next point for especial consideration. I said that the teacher who is to direct intellectual operations should understand what they are. He should, especially as a teacher of little children, examine well the method already referred to, by which they gain all their elementary knowledge by themselves, by the exercise of their own powers. He should study children in the concrete,—take note of the causes which operate on the will, which enlist the feelings, which call forth the intellect,—in order that he may use his knowledge with the best effect when he takes the place of the great natural educator. To change slightly Locke's words, he is to "consider the operation of the discerning faculties or a child as they are employed about the objects which they have to do with"; and this because it is his proper function as a teacher to guide this operation. And if he wishes to be an accomplished teacher—a master of his art—he should further study the principles of Psychology, the true groundwork of his action, in the writings of Locke, Dugald Stewart, Bain, Mill, and others, who show us what these principles are. This study will give a scientific compactness and co-ordination to the facts which he has learned by his own method of investigation.

But it may be said: Do you demand all this preparation for the equipment of a mere elementary teacher? My reply is: I require it because he *is* an elementary teacher. Whatever may be done in the case of those children who are somewhat advanced in their career, and who have, to some extent at least, learned how to learn, it is most of all important that in the beginning of instruction, and with a view to gain the most fruitful results from that instruction, the earliest teacher should be an adept in the Science and Art of Education. We should do as the Jesuits did in their famous schools, who, when they found a teacher showing real skill and knowledge in teaching the higher classes, *promoted* him to the charge of the lowest. There was a wise insight into human nature in this. Whether the child shall love or hate knowledge,—whether his fundamental notions of things shall be clear or cloudy,—whether he shall advance in his course as an intelligent being, or as a mere machine,—whether he shall, at last, leave school stuffed with crude, undigested gobbets of knowledge, or possessed of knowledge assimilated by his own digestion, and, therefore, a source of mental health and strength,—whether he shall be lean, atrophied, weak, destitute of the power of self-government and self-direction, or strong, robust, and independent in thought and action,—depends almost altogether on the manner in which his earliest instruction is conducted, and this again on the teacher's acquaintance with the Science and Art of Education.

But besides knowing the subject of instruction, and knowing the Art of Education founded on the Science, the accomplished teacher should also know the methods devised or adopted by the most eminent practitioners of his art. A teacher, even when equipped in the manner I have suggested, cannot safely dispense with the experience of others. In applying principles to practice there is always a better or worse manner of doing so, and one may learn much from knowing how others have overcome the difficulties at which we stumble. Many a teacher, when doubtful of the principles which constitute his usual rule of action, will gain confidence and strength by seeing their operation in the practice of others, or may be reminded of them when he has for the moment lost sight of them. Is it nothing to a teacher that Plato, Aristotle, Plutarch, Quintilian, in ancient times; Ascham, Rousseau, Comenius, Sturm, Pestalozzi, Ratich, Jacotot, Fröbel, Richter, Herbart, Beneke, Diesterweg, Arnold, Spencer, and a host of others in modern times, have written and worked to show him what education is both in theory and practice? Does he evince anything but his own ignorance by pretending to despise or ignore their labors? What would be said of a medical practitioner who knows nothing of the works or even the names of Celsus, Galen, Harvey, John Hunter, Sydenham, Bell, etc., and who sets up his empirical practice against the vast weight of their authority and experience? I need not insist on this argument. It is too obvious. Much time, therefore, has been devoted during the year to the History of Education in various countries and ages, and to the special work of some of the great educational reformers. In particular, the methods of Ascham, Ratich, Comenius, Pestalozzi, Jacotot, and Fröbel have been minutely described and criticised.

And now it is only right to endeavor, in conclusion, to answer the question which may be fairly asked: "After all, what have you really accomplished by this elaborate exposition of principles and methods? You have had no training schools for the practice of your students; it has all ended in talk." In reply to this inquiry or objection, I have a few words to say. The students whom I have been instructing are for the most part teachers already, who are practicing their art every day. My object has been so forcibly to stamp upon their minds a few great principles, so strongly to impress them with convictions of these principles, that it should be impossible, in the nature of things, for them as my disciples, to act in contradiction or violation of them. Whenever, in their practice, they are tempted to resort to drill and cram, I know, without being there to see, that the principles which have become a part of their being, because founded on the truths of nature recognized by themselves, rise up before them and forbid the intended delinquency. In this way, without the apparatus of a training school, the work of a training school is done.

* * * * * * * * *

And now it is time to set you free from the long demand I have made on your patience. I have studiously avoided in this lecture tickling your ears with rhetorical flourishes. My great master, Jacotot, has taught me that "rhetoric and reason have nothing in common." I have, therefore, appealed to your reason. I certainly might have condensed my matter more; but long experience in the art of intellectual feeding has convinced me that concentrated food is not easy of digestion. But for this fault—if it be one—and for any other, whether of commission or omission, I throw myself on your indulgent consideration.

The accompanying statistics will convey an idea of the condition of the School Department the past year:

GENERAL STATISTICS.

Population of the City (U. S. Census, 1870)		150,005
Estimated population, 1876		272,345
Number of youth in the City under seventeen years of age, June 30, 1876		71,436
Increase for the year	6,527	
Number of youth in the City between five and seventeen years of age who are entitled by law to draw public money		46,238
Increase for the year	5,209	
Number of children between six and seventeen years of age who are entitled to attend the public schools		42,287
Increase for the year	4,704	
Number of children between five and six years of age who will be entitled to enter the public schools during the next year		3,951
Increase for the year	505	
Whole number of different pupils enrolled during the year in all the public schools		34,029
Increase for the year	2,901	
Whole number of boys enrolled in all the public schools during the year		17,995
Whole number of girls enrolled in all the public schools during the year		16,034
Average number belonging to the public schools		24,150
Increase for the year	1,703	
Average daily attendance of pupils in all the public schools		22,761
Increase for the year	1,747	
Average daily attendance of boys in all the public schools		11,764
Average daily attendance of girls in all the public schools		10,997

Number attending private and church schools during the year (not including Chinese), as reported by the Census Marshals in June, 1876.		6,655
Increase during the year	561	
Number of pupils attending public and private schools during the year (not including Chinese), as reported by the Census Marshals in June, 1876		35,289
Increase during the year	2,984	
Number of children between five and seventeen years of age (not including Chinese) who have not attended school at any time during the year, as reported by the Census Marshals in June, 1876		10,949
Average percentage of attendance of all the public schools		94.2

SCHOOL ATTENDANCE.

Total enrollment in High Schools		756
Total enrollment in Grammar Schools		12,808
Total enrollment in Primary Schools		17,549
Total enrollment in Evening Schools		2,916
Average number belonging to High Schools		646
Increase for the year	84	
Average number belonging to Grammar Grades		5,580
Increase for the year.	490	
Average number belonging to the Primary Grades		17,040
Increase for the year.	1,073	
Average number belonging to the Evening Schools		884
Increase for the year.	57	
Average daily attendance in the High Schools.		620
Increase for the year	78	
Average daily attendance in the Grammar Grades		5,326
Increase for the year	469	
Average daily attendance in the Primary Grades		15,963
Increase for the year	1,035	
Average daily attendance in the Evening Schools		686
Percentage of attendance in the High Schools		95.5
Percentage of attendance in the Grammar Grades		95.4
Percentage of attendance in the Primary Grades		93
Percentage of attendance in the Evening Schools		77.6
Average daily attendance per teacher in the High Schools		27
Average daily attendance per teacher in the Grammar Schools		40
Average daily attendance per teacher in the Primary Schools		47
Average daily attendance per teacher in the Evening Schools		21

SCHOOL HOUSES.

Total number of school buildings used by the Department	56
Number of buildings owned by Department, but not in use	4
Number of buildings for High Schools	2
Rooms, 23; Hall, 1.	
Number of buildings for Grammar Schools	15
Rooms, 206; Hall, 1.	
Number of buildings for Mixed Schools	8
Rooms, 37.	
Number of buildings for Primary Schools	31
Rooms, 231; Hall, 1.	
Number of brick buildings owned by the Department	8
Number of wooden buildings owned by the Department	45
Number of rooms rented	26
Number of pupils taught in rented rooms	1,560
Amount paid for rent of rooms during the year	$11,097 66

SCHOOLS AND CLASSES.

Number of classes in the High Schools	24
Boys, 6; Girls, 18.	
Number of Grammar Classes	140
Number of Primary Classes	321
Number of Primary Classes taught in Grammar and Mixed Schools	103
Number of Grammar Classes taught in Primary and Mixed Schools	21
Number of Evening Classes	31
Total number of classes in the Department	516

TEACHERS.

Total number of teachers	574
Males, 67; Females, 507.	
Number of Principals	49
High Schools, 2; Grammar Schools, 14; Mixed Schools, 7; Primary Schools, 25; Evening School, 1.	
Number of Principals not required to teach a class.	33
Males, 12; Females, 21.	
Number of Vice-Principals	19
Males, 8; Females, 11.	
Number of Teachers in High Schools	29
Males, 12; Females, 17.	
Number of Teachers in Grammar Schools	230
Males, 25; Females, 205.	

Number of Teachers in Mixed Schools	33
Males, 5; Females, 28.	
Number of Teachers in Primary Schools	250
Males, 0; Females, 250.	
Number of Teachers in Evening Schools	32
Males, 25; Females, 7.	
Number of Teachers of French.	9
Number of Teachers of German	12
Teacher of Latin and Greek	1
Number of Special Teachers	10
Music, 6; Drawing, 4.	

EXPENDITURES.

Total expenses for the year ending June 30, 1876		$867,754 89
Increase for the year	$160,309 53	
Teachers' salaries		557,437 22
Increase for the year	38,298 50	
Janitors' salaries		34,752 14
Increase for the year	1,651 49	
Census Marshals.		1,502 00
Decrease for the year	279 50	
Water		169 99
Increase for the year	34 99	
School text-books		3,406 24
Increase for the year	2,307 28	
Stationery and school incidentals		22.882 46
Increase for the year	2,754 68	
Furniture		28,590 57
Increase for the year	19,328 85	
Fuel and lights		6,974 24
Increase for the year	867 24	
Rents		11,097 66
Decrease for the year	4,146 23	
Repairs and carpenter work		53,877 31
Increase for the year	2,777 58	
Incidentals		13,642 66
Increase for the year	1,089 75	
Buildings		133,422 40
Valuation of City property for the year ending June 30, 1876		269,105,141 00
Increase for the year	4,875,697 00	
Total amount of revenue for City purposes for the year ending June 30, 1876		4,319,137 51
Decrease for the year	966,706 85	

Total income of the School Department for the year ending June 30, 1876, including cash on hand July 1, 1875		799,191 27
Increase for the year	1,065 52	
State and City tax for 1875–76, on each hundred dollars	$1 605	
City school tax on each hundred dollars	14½ cts.	
Percentage of the total revenue of the School Department on the whole amount of revenue raised by the City for the year ending June 30, 1876	18.5	

Estimated value of school sites	1,500,000 00
Estimated value of school buildings	825,000 00
Estimated value of school furniture	150,000 00
Estimated value of school libraries	10,500 00
Estimated value of school apparatus	20,000 00
Total valuation of school property	$2,505,500 00

DETAILED STATEMENT OF THE FINANCES OF THE PUBLIC SCHOOL DEPARTMENT FOR THE FISCAL YEAR ENDING JUNE 30, 1876.

RECEIPTS.

From Taxes	$310,750 69
From State Apportionment	314,736 28
From Poll Taxes	82,035 65
From Rent of School Property	131 00
From Sale of Old Materials	7 25
Total	$707,660 87
Cash on hand July 1, 1875	141,376 67
Total	$849,037 54
Less outstanding Warrants July 1, 1875	50,493 61
Total Revenue	$798,543 93

DISBURSEMENTS.

For Teachers' Salaries	$557,437 22
For Janitors' Salaries	34,752 14
For Census Marshals	1,502 00
For Water	169 99
For School Text-Books	3,406 24
For Stationery and School Incidentals	22,882 46
For Furniture	28,590 57
For Fuel and Lights	6,974 24
For Incidentals	13,642 66
For Rents	11,097 66
For Repairs and Carpenter Work	53,877 31
For Buildings	132,775 06
Total	$867,107 55

Total expenditures	$867,107 55
Total revenue	798,543 93
Deficit	$68,563 62

SCHOOL FUND—SPECIAL.

Cash on hand July 1, 1875	$647 34
Paid for alterations, etc., Spring Valley Grammar School building	647 34

ESTIMATED RECEIPTS AND EXPENDITURES OF THE DEPARTMENT FOR THE FISCAL YEAR ENDING JUNE 30, 1877.

ESTIMATED RECEIPTS.

From City Taxes—Real Estate	$360,000 00
From City Taxes—Personal Property	105,000 00
From State Apportionment	315,000 00
From Poll Taxes	90,000 00
Total	$870,000 00

ESTIMATED EXPENDITURES.

For Teachers' Salaries	$575,000 00
For Janitors' Salaries	36,000 00
For Census Marshals	2,000 00
For School Text-Books	5,000 00
For Stationery and School Incidentals	25,000 00
For Furniture	20,000 00
For Repairs and Carpenter Work	50,000 00
For Fuel and Lights	8,000 00
For Water	250 00
For Rents	12,000 00
For Incidentals	15,250 00
For Deficit in Fund of 1875–76	68,500 00
For Permanent Improvements, Buildings, etc.	53,000 00
Total	$870,000 00

SCHEDULE OF TEACHERS' SALARIES, 1876-77.

Adopted July 25, 1876.

HIGH SCHOOLS.

	PER MONTH.	PER ANNUM.
Principal Boys' High School	$333 33	$4,000 00
Principal Girls' High School	250 00	3,000 00
Special Teachers of Latin and Greek	175 00	2,100 00
Special Teachers of French and German	150 00	1,800 00
Special Teachers of Natural Sciences	175 00	2,100 00
Assistants in Boys' High School	150 00	1,800 00
Assistants (Senior Classes) Girls' High School	150 00	1,800 00
Assistants (Middle Classes) Girls' High School	125 00	1,500 00
Assistants (Junior Classes) Girls' High School	115 00	1,380 00

GRAMMAR SCHOOLS.

	PER MONTH.	PER ANNUM.
Principal Lincoln Grammar School	$200 00	$2,400 00
Principals of South Cosmopolitan, Denman, Rincon, Hayes Valley, Valencia, Eighth Street, North Cosmopolitan, Broadway, Union, Spring Valley, Washington, Geary Street and Mission Grammar Schools	175 00	2,100 00
Vice-Principals of said Schools	125 00	1,500 00
Holders of First Grade Certificates, teaching Third and Fourth Grade Classes, exclusively for boys	75 00	900 00
Holders of First Grade Certificates, teaching other Classes, Third and Fourth Grades	72 50	870 00
Holders of Second Grade Certificates, teaching Third and Fourth Grade Classes, exclusively for boys	72 50	870 00
Holders of Second Grade Certificates, teaching other Classes, Third and Fourth Grades	70 00	840 00
Holders of First Grade Certificates, teaching Second Grade Classes, of boys exclusively	85 00	1,020 00
Holders of First Grade Certificates, teaching other Classes, Second Grades	77 50	930 00
Holders of First Grade Certificates, teaching First Grade Classes, of boys exclusively	92 50	1,110 00
Holders of First Grade Certificates, teaching other Classes, First Grades	85 00	1,020 00

NOTE.—Teachers of First or Second Grade Classes must be holders of First Grade Certificates, and teachers of Third or Fourth Grade Classes must be holders of First or Second Grade Certificates. No teachers shall be employed in Grammar Classes, except those who have had two years experience in teaching.

PRIMARY SCHOOLS.

	PER MONTH.	PER ANNUM.
Principals having eight Classes or more, and not allowed to teach Classes	$125 00	$1,500 00
All other Principals	100 00	1,200 00

ASSISTANTS.

	PER MONTH.	PER ANNUM.
Holders of Third Grade Certificates, who have had no experience in teaching:		
First year	$50 00	$600 00
Second year	55 00	660 00
Third year	60 00	720 00
Holders of Second Grade Certificates, who have had no experience in teaching:		
First year	55 00	660 00
Second year	60 00	720 00
Third year	65 00	780 00
Holders of First Grade Certificates, who have had no experience in teaching:		
First year	60 00	720 00
Second year	65 00	780 00
Third year	70 00	840 00

NOTE.—Teachers who have taught two years in any Public School in the United States, will be credited with that experience on entering this Department, and will enter on the advanced salary according to Grade of Certificate. This schedule for the salaries of primary assistants shall apply to those teachers only whose salaries will thereby be increased, and to teachers hereafter to be elected; but it shall not apply so as to occasion the reduction of the salaries of any teachers heretofore elected.

GENERAL RULE OF INCREASE OF SALARIES ON ACCOUNT OF EXPERIENCE IN TEACHING IN THE PUBLIC SCHOOLS OF SAN FRANCISCO.

Assistants both in Primary and Grammar Schools shall be entitled to the following increase of salaries over and above the preceding schedule of salaries:

	PER MONTH.	PER ANNUM.
Increase at the end of four years	$5 00	$60 00
Increase at the end of seven years	7 50	90 00
Increase at the end of ten years	10 00	120 00

This shall apply to all assistants now elected according to the time of their service.

SPECIAL SCHOOLS.

	PER MONTH.	PER ANNUM.
Principal of Evening School	$75 00	....
Vice-Principal of Evening School	65 00	....
Assistants of Evening School	50 00	....

OUTSIDE AND UNCLASSIFIED SCHOOLS.

	PER MONTH.	PER ANNUM.
Principal of South San Francisco School	$150 00	$1,800 00
Principal of Potrero School	125 00	1,500 00
Principal of Fairmount School	125 00	1,500 00
Principal of Ocean House School	100 00	1,200 00
Principal of Point Lobos School	100 00	1,200 00
Principal of West End School	100 00	1,200 00
Principal of Laguna Honda School	100 00	1,200 00

SPECIAL TEACHERS OF LANGUAGES.

	PER MONTH.	PER ANNUM.
Holders of First Grade Certificates in German or French, teaching in Grammar Schools	$100 00	$1,200 00
Holders of First Grade Certificates in either French or German, teaching in Primary Schools	80 00	960 00
Holders of Second Grade Certificates, in French or German	75 00	900 00
Holders of Third Grade Certificates, in French or German	70 00	840 00
Assistants, teaching English and German or French	$10 00 extra.	120 00

TEACHERS OF MUSIC AND DRAWING.

	PER MONTH.	PER ANNUM.
Principal Teacher of Drawing	$150 00	$1,800 00
Assistant Teachers of Drawing	125 00	1,500 00
Teachers of Music	125 00	1,500 00

COMPARATIVE EXPENSES OF THE PUBLIC SCHOOLS AND THE TOTAL EXPENSES OF THE CITY.

YEARS.	Total Expense of the City.	Total Expense of the School Department.	Per cent. of Expenditure for School Purposes.
1852		$23,125 00	
1853		35,040 00	
1854		159,249 00	
1855		136,580 00	
1856		125,064 00	
1857		92,955 00	
1858		104,808 00	
1859		134,731 00	
1860	$1,142,290 89	156,407 00	13
1861	826,012 33	158.855 00	19
1862	812,569 25	134,567 00	16
1863	1,387,806 12	178,929 00	13
1864	1,495,906 32	228,411 00	16
1865	1,819,078 52	346,862 00	19
1866	2,192,918 79	361,668 00	17
1867	2,356.301 88	507,822 00	21
1868	2,365,250 11	415,839 00	18
1869	2,459,210 05	400,842 00	16
1870	2,684,433 27	526,625 90	19
1871	2,819,617 15	705,116 00	25
1872	3,062,766 39	668,262 00	22
1873	3,155,015 99	611,818 00	19 2-5
1874	3,197,808 30	689,022 00	21½
1875	4,435,257 65	707,445 36	15 9-10
1876	4,452,940 77	867,754 89	19 2-5
Total		8,477,798 15	

CENSUS REPORT FOR JUNE, 1876.

WARDS	CHILDREN BETWEEN FIVE AND SEVENTEEN YEARS OF AGE.				BETWEEN FIVE AND SIX YEARS OF AGE.		BETWEEN SIXTEEN & SEVENTEEN YRS.		UNDER FIVE YEARS OF AGE.		Between 5 and 17 years who have attended Public Schools during past year.... ..		Between 5 and 17 years who have attended Private Schools only during past year....		Between 5 and 17 years who have not atten. schools during past year.		Mongolians under 17 years of age	Mongolians between 5 and 17 y'rs attending school.	Deaf and Dumb children between 5 and 21 years.	Blind children betwen 5 and 21 years of age.....	NATIVITY OF CHILDREN.				Indians...... ....
	Boys White	Girls White	Boys Colored	Girls Colored	Boys	Girls	Boys	Girls	White.	Colored	White.	Colored	White.	Colored	White.	Colored					Native Born. Native Parents.....	Native Born. One Parent Foreign..	Native Born. Both Parents Foreign.	Foreign Born......	
1st.	1147	1009	2	3	78	78	75	46	1168	1	1303	5	211	....	642	..	49	....	2	....	210	333	2523	313	..
2d......	1879	1797	10	6	122	106	59	64	1920	15	2292	10	413	....	971	6	21	....	....	....	694	677	4125	152	..
3d......	81	64	....	....	12	8	1	1	83	....	77	....	4	....	64	..	2	....	1	...	10	21	166	33	..
4th.....	1198	1275	60	33	97	102	52	48	1224	37	1619	64	211	....	643	29	287	10	2	....	893	319	2467	435	2
5th.....	82	70	....	....	5	2	5	5	44	....	66	....	34	....	52	..	1	....	....	....	97	31	58	11	..
6th.....	632	624	14	12	34	46	48	36	486	17	851	18	101	....	304	8	311	14	....	....	654	173	963	306	..
7th.....	1013	962	....	....	41	59	23	32	1247	....	1059	....	371	....	545	..	6	....	....	....	335	244	2467	182	..
8th.....	1816	1929	5	4	130	66	111	91	1832	8	2647	7	582	....	516	2	91	1	3	....	1885	209	3461	130	1
9th....	1956	2010	7	8	200	161	72	71	2215	8	2674	11	539	1	753	3	51	....	....	3	1211	326	4559	159	3
10th....	3453	3951	5	10	593	610	185	266	3535	8	3813	7	1472	....	2119	8	170	....	....	....	1740	946	8077	369	..
11th....	5877	5966	6	5	473	420	257	190	6398	4	7111	6	1781	1	2951	4	98	7	5	1	4065	2489	10859	941	8
12th....	3651	3582	5	5	284	224	141	183	3826	6	4987	7	923	2	1323	1	28	4	1	1	3464	1266	6197	176	2
Total.	22785	23239	114	86	2069	1882	1029	1033	23978	104	28499	135	6642	4	10883	61	1115	36	14	5	15258	7034	45922	3207	16

THE FOLLOWING IS A COMPARATIVE STATEMENT OF ALL THE CHILDREN IN THE CITY SINCE 1859:

Under eighteen years of age:

June, 1859	13,858
“ 1860	15,409
“ 1861	20,933
“ 1862	22,044
“ 1863	25,952
“ 1864	30,480
“ 1865	32,529

Under fifteen years of age:

June, 1866	30,675
“ 1867	34,889
“ 1868	39,728
“ 1869	41,488
“ 1870	45,617
“ 1871	46,610
“ 1872	52,320
“ 1873	54,469

Under seventeen years of age:

June, 1874	60,552
“ 1875	64,909
“ 1876	71,436

THE FOLLOWING IS A COMPARATIVE STATEMENT OF THE WHOLE NUMBER ENROLLED, AND THE AVERAGE DAILY ATTENDANCE OF ALL THE PUBLIC SCHOOLS SINCE 1852.

	NUMBER ENROLLED.	AVERAGE DAILY ATTENDANCE.
During the year ending October 31, 1852	2,132	445
During the year ending October 31, 1853	2,870	703½
During the year ending October 31, 1854	4,199	1,011½
During the year ending October 31, 1855	4,694	1,484
During the year ending October 31, 1856	3,370	2,516
During the year ending October 31, 1857	4,637	2,155
During the year ending October 31, 1858	5,273	2,521
During the year ending October 31, 1859	6,001	2,829
During the year ending October 31, 1860	6,108	2,837
During the year ending October 31, 1861	6,674	3,377
During the year ending October 31, 1862	8,203	3,794
During the year ending October 31, 1863	8,979	4,389
During the year ending October 31, 1864	10,981	5,470
During the year ending October 31, 1865*		6,718
During the year ending June 30, 1866*		8,131
During the year ending June 30, 1867*		10,177
During the year ending June 30, 1868	17,426	11,871
During the year ending June 30, 1869	19,885	13,113
During the year ending June 30, 1870	22,152	15,394
During the year ending June 30, 1871	26,406	16,978
During the year ending June 30, 1872	27,664	18,272
During the year ending June 30, 1873	27,772	18,530
During the year ending June 30, 1874	29,449	19,434
During the year ending June 30, 1875	31,128	21,014
During the year ending June 30, 1876	34,029	22,761

* No record kept of the number enrolled.

PERCENTAGE OF ATTENDANCE ON THE AVERAGE NUMBER BELONGING.

1860	83	1869	92.7
1861	90	1870	94
1862	90	1871	94
1863	91	1872	94.2
1864	92	1873	94.4
1865	92.9	1874	93.3
1866	93.5	1875	93.7
1867	93.8	1876	94.2
1868	93¾		

REPORT OF THE RESULTS OF THE ANNUAL EXAMINATION OF THE SCHOOLS, MAY, 1876.

SCHOOLS.	FIRST GRADE.			SECOND GRADE.			THIRD GRADE.		
	No. Examined	No. Promoted	No. Failed	No. Examined	No. Promoted	No. Failed	No. Examined	No. Promoted	No. Failed
Mission Grammar	......	......	......	50	49	1	48	45	3
Denman Grammar	137	116	21	151	144	7	159	143	16
Lincoln Grammar	73	40	33	126	75	51	181	124	57
Rincon Grammar	60	48	12	17	17	0	109	96	13
Washington Grammar	18	11	7	37	33	4	35	35	0
Union Grammar	16	8	8	32	27	5	42	36	6
Broadway Grammar	40	28	12	60	44	16	57	47	10
Spring Valley Grammar	27	25	2	36	33	3	44	44	0
Hayes Valley Grammar	51	42	9	107	82	25	110	103	7
South Cosmopolitan Grammar	87	76	11	138	128	10	164	133	31
North Cosmopolitan Grammar	38	27	11	46	37	9	83	64	19
Valencia Street Grammar	75	42	33	78	63	15	139	114	25
Eighth Street Grammar	32	28	4	46	45	1	42	36	6
Geary Street Grammar	......	......	......	......	......	......	36	34	2
Model	30	25	5	43	37	6	43	40	3
South San Francisco	......	......	......	8	5	3	19	16	3
Potrero	......	......	......	5	4	1	......	......	......
South Cosmopolitan Primary	......	......	......	......	......	......	......	......	......
Bush Street Cosmo. Primary	......	......	......	......	......	......	......	......	......
Columbia Street Primary	......	......	......	......	......	......	......	......	......
Lincoln Primary	......	......	......	......	......	......	......	......	......
Market Street Primary	......	......	......	......	......	......	......	......	......
Market and Seventh St. Prim.	......	......	......	......	......	......	......	......	......
Tehama Primary	......	......	......	......	......	......	......	......	......
Broadway Primary	......	......	......	......	......	......	......	......	......
Spring Valley Primary	......	......	......	......	......	......	......	......	......
Fourth Street Primary	......	......	......	......	......	......	......	......	......
Silver Street Primary	......	......	......	......	......	......	......	......	......
Tyler and Jones Sts. Primary	......	......	......	......	......	......	......	......	......
Pine and Larkin Sts. Primary	......	......	......	......	......	......	......	......	......
Greenwich Street Primary	......	......	......	......	......	......	......	......	......
Hayes Valley Primary	......	......	......	......	......	......	......	......	......
Union Primary	......	......	......	......	......	......	......	......	......
Shotwell Street Primary	......	......	......	......	......	......	......	......	......
Eighth Street Primary	......	......	......	......	......	......	......	......	......
Powell Street Primary	......	......	......	......	......	......	......	......	......
Tyler Street Primary	......	......	......	......	......	......	......	......	......
West End	1	1	0	5	4	1	3	3	0
Fairmount	......	......	......	......	......	......	......	......	......
Noe and Temple Sts	......	......	......	......	......	......	......	......	......
Point Lobos	......	......	......	1	1	0	2	2	0
Ocean House	......	......	......	......	......	......	......	......	......
Laguna Honda	......	......	......	2	2	0	7	5	2
Laguna Street Primary	......	......	......	......	......	......	......	......	......
Jackson Street Primary	......	......	......	......	......	......	......	......	......
Total	685	517	168	988	830	158	1323	1120	203

RESULT OF ANNUAL EXAMINATION—Continued.

SCHOOLS.	FOURTH GRADE.			FIFTH GRADE.			SIXTH GRADE.		
	No. Examined....	No. Promoted....	No. Failed....	No. Examined....	No. Promoted....	No. Failed....	No. Examined....	No. Promoted....	No. Failed....
Mission Grammar.	132	107	25	199	156	43	175	126	49
Denman Grammar............	213	194	19	182	154	28	......	......	......
Lincoln Grammar............	248	159	89	286	253	33	58	43	15
Rincon Grammar.............	126	115	11	104	90	14	41	35	6
Washington Grammar........	91	84	7	92	71	21	94	79	15
Union Grammar..............	74	57	17	31	21	10	54	45	9
Broadway Grammar..........	111	78	33	130	71	59	45	30	15
Spring Valley Grammar......	73	57	16	56	25	31	114	103	11
Hayes Valley Grammar.......	173	158	15	176	153	23	115	102	13
South Cosmopolitan Grammar	247	204	43	109	88	21	61	51	10
North Cosmopolitan Grammar	90	80	10	159	130	29	99	82	17
Valencia Street Grammar.....	166	142	24	177	132	45	115	106	9
Eighth Street Grammar......	152	146	6	161	155	6	116	105	11
Geary Street Grammar........	58	51	7	91	68	23	103	86	17
Model......................	62	52	10	69	42	27	67	39	28
South San Francisco..........	11	9	2	35	23	12	55	46	9
Potrero.....................	19	17	2	17	12	5	26	16	10
South Cosmopolitan Primary.	84	52	32	150	99	51	179	121	58
Bush Street Cosmo. Primary..	35	20	15	93	80	13	146	125	21
Columbia Street Primary.....	......	......	......	39	31	8	68	56	12
Lincoln Primary..............	52	49	3	98	86	12	150	142	8
Market Street Primary........	......	......	......	91	81	10	138	123	15
Market and Seventh St. Prim.	......	......	......	3	1	2	20	8	12
Tehama Primary.........	......	......	......	84	77	7	135	99	36
Broadway Primary............	......	......	......	......	......	......	58	54	4
Spring Valley Primary........	......	......	......	66	60	0	51	51	0
Fourth Street Primary........	......	......	......	33	33	0	96	78	18
Silver Street Primary.........	......	......	......	46	42	4	113	86	27
Tyler and Jones Sts. Primary.	......	......	......	17	15	2	30	30	0
Pine and Larkin Sts. Primary.	......	......	......	32	28	4	98	84	14
Greenwich Street Primary....	......	......	......	25	22	3	74	65	9
Hayes Valley Primary.........	......	......	......	49	45	4	106	69	37
Union Primary...............	......	......	......	45	36	9	116	100	16
Shotwell Street Primary	......	......	......	103	65	38	121	108	13
Eighth Street Primary........	......	......	......	56	46	10	55	52	3
Powell Street Primary........	......	......	......	......	......	......	60	60	0
Tyler Street Primary.........	......	......	......	......	......	......	30	26	4
West End....................	5	5	0	7	3	4	13	5	8
Fairmount...................	......	......	......	16	13	3	26	16	10
Noe and Temple Sts..........	11	10	1	15	14	1	17	16	1
Point Lobos..................	2	2	0	1	0	1	4	4	0
Ocean House.................	3	3	0	2	2	0	7	6	1
Laguna Honda...............	......	......	......	17	8	9	4	4	0
Laguna Street Primary........	......	......	......	16	13	3	14	9	5
Jackson Street Primary.......	......	......	....	6	6	0	23	15	8
Total.....................	2238	1851	387	3184	2550	634	3290	2706	584

RESULT OF ANNUAL EXAMINATION—Concluded.

SCHOOLS.	SEVENTH GRADE.			EIGHTH GRADE.			TOTALS.		
	No. Examined	No. Promoted	No. Failed	No. Examined	No. Promoted	No. Failed	No. Examined	No. Promoted	No. Failed
Mission Grammar	200	173	27	312	167	145	1116	823	293
Denman Grammar	......	......	......	......	......	......	842	751	91
Lincoln Grammar	......	......	......	......	......	......	972	694	278
Rincon Grammar	20	16	4	......	......	......	477	417	60
Washington Grammar	43	43	0	87	70	17	497	426	71
Union Grammar	102	75	27	65	35	30	416	304	112
Broadway Grammar	25	20	5	33	19	14	501	337	164
Spring Valley Grammar	123	80	43	51	51	0	524	418	106
Hayes Valley Grammar	163	144	19	41	41	0	936	825	111
South Cosmopolitan Grammar	59	46	13	......	......	......	865	726	139
North Cosmopolitan Grammar	56	46	10	......	......	......	571	466	105
Valencia Street Grammar	97	88	9	65	63	2	912	750	162
Eighth Street Grammar	152	141	11	182	169	13	883	825	58
Geary Street Grammar	121	100	21	127	127	0	536	466	70
Model	57	41	16	70	46	24	441	322	119
South San Francisco	98	74	24	115	81	34	341	254	87
Potrero	44	35	9	67	56	11	178	140	38
South Cosmopolitan Primary	111	59	52	113	90	23	637	421	216
Bush Street Cosmo. Primary	193	130	63	34	21	13	501	376	125
Columbia Street Primary	81	64	17	133	71	62	321	222	99
Lincoln Primary	119	105	14	165	164	1	584	546	38
Market Street Primary	179	157	22	286	252	34	694	613	81
Market and Seventh Primary	48	5	43	23	6	17	94	20	74
Tehama Primary	165	123	42	111	81	30	495	380	115
Broadway Primary	87	81	6	99	93	6	244	228	16
Spring Valley Primary	48	45	3	33	33	0	198	189	9
Fourth Street Primary	98	70	28	145	129	16	372	310	62
Silver Street Primary	132	96	36	145	110	35	436	334	102
Tyler and Jones St. Primary	41	41	0	65	65	0	153	151	2
Pine and Larkin St. Primary	146	121	25	151	132	19	427	365	62
Greenwich Street Primary	163	111	52	101	95	6	363	293	70
Hayes Valley Primary	107	67	40	111	70	41	373	251	122
Union Primary	140	117	23	82	78	4	383	331	52
Shotwell Street Primary	144	108	36	103	66	37	471	347	124
Eighth Street Primary	103	75	28	......	......	......	214	173	41
Powell Street Primary	146	143	3	165	154	11	371	357	14
Tyler Street Primary	29	27	2	56	49	7	115	102	13
West End	9	2	7	34	3	31	77	26	51
Fairmount	18	14	4	22	22	0	82	65	17
Noe and Temple Streets	24	19	5	17	16	1	84	75	9
Point Lobos	6	6	0	10	7	3	26	22	4
Ocean House	10	7	3	9	4	5	31	22	9
Laguna Honda	7	5	2	10	10	0	47	34	13
Laguna Street Primary	47	28	19	87	72	15	164	122	42
Jackson Street Primary	28	19	9	22	18	4	79	58	21
Total	3789	2967	822	3547	2836	711	19044	15377	3667

SUMMARY OF THE ANNUAL REPORTS OF PRINCIPALS FILED IN MAY, 1876.

SCHOOLS.	Whole number of different pupils enrolled during the year, excluding duplicate enrollments, or children who have attended other Public Schools during the year — Bet. 6 and 16 years.	Over 16 years.	Number of Days Taught by Teachers. — Female.	Male.	Number of Pupils Enrolled during the Year, Excluding Duplicate Enrollments. — Male	Female.	Average Daily Attendance. — Male.	Female.	Number of days School was in session during the year	Whole number of pupils received by transfers after the first week of School Year	Whole number of pupils promoted from lower to higher grades at the beginning of each School Month, not including the first month of the year	Whole number of pupils put down from a higher to a lower grade after the commencement of the School	Number of teachers who are graduates of the California State Normal School	Number of teachers who are graduates of any other State Normal School	Number of teachers who subscribe for some Educational Journal	Number of graduates of the Girls' High School of San Francisco
Boys' High	94	168	0	1490	262	0	202.2	0	203	0	0	0	0	0	0	0
Girls' High	123	371	2653	623	0	494	0	409.2	204	6	0	0	1	3	2	2
Mission Grammar	1154	0	4664	0	594	560	520	497	210	460	64	14	4	1	0	7
Denman Grammar	1084	53	3360	204	0	1137	0	793.5	210	149	30	12	2	6	1	1
Lincoln Grammar	1402	72	3990	630	1474	0	1026	0	210	151	52	24	5	4	4	3
Rincon Grammar	564	20	2440.5	0	0	584	0	483.7	210	90	0	10	1	1	0	5
Washington Grammar	679	3	2286	416	682	0	541	0	210	90	79	4	3	1	0	3
Union Grammar	635	4	1890	419	639	0	442	0	210	78	33	17	2	0	1	4
Broadway Grammar	668	7	2510	210	0	675	0	512.6	210	56	77	3	5	0	1	1
Spring Valley Grammar	844	4	2726	212	421	427	318.3	302	210	191	12	20	2	0	0	6
Hayes Valley Grammar	1218	7	3777	611	530	695	400	528	210	115	20	25	6	1	15	4
North Cosmo. Grammar	740	5	3110	199	361	384	276.7	312.9	210	52	0	1	2	0	0	2
South Cosmo. Grammar	1025	11	3726	621	542	494	457.8	407.3	207	95	22	2	5	1	1	7
Valencia St. Grammar	1353	20	3855	625	687	686	466	444	210	188	26	14	5	1	1	5
Eighth Street Grammar	1234	2	3385	605	646	590	493.3	414	210	134	23	13	2	1	1	3
South San Francisco	418	5	1342	210	203	220	153	166	210	31	5	2	2	2	1	1
Potrero	286	0	812	73	136	150	87	96.9	210	22	137	0	0	0	0	1
South Cosmo. Primary	1009	0	3927	0	522	487	357	389	210	105	108	17	1	1	1	5
Model	631	0	2101	0	344	287	246	187	203	44	20	1	1	0	1	8
Lincoln Primary	1258	0	2715	0	432	826	245	400	210	195	48	0	2	1	2	5
Geary Street Primary	849	0	2·78	0	423	426	311.3	290.8	206	100	36	3	1	1	1	5
Bush Street Primary	1018	0	3348.5	0	507	511	343.8	282.3	206	154	50	6	3	0	0	4
Market and 7th St. Prim.	1271	0	3555	0	644	627	423	383	210	166	134	25	1	1	3	5
Market Street Primary	69	0	324	0	42	27	86.9	53.6	73	97	2	0	0	0	0	2
Tehama Primary	1162	0	3481	0	702	460	462.6	274.9	210	86	12	0	1	1	1	5

SUMMARY OF THE ANNUAL REPORTS OF PRINCIPALS FILED IN MAY, 1876—CONTINUED.

SCHOOLS.	Whole number of different pupils enrolled during the year, excluding duplicate enrollments, or children who have attended other Public Schools during the year		NUMBER OF DAYS TAUGHT BY TEACHERS.		NUMBER OF PUPILS ENROLLED DURING THE YEAR, EXCLUDING DUPLICATE ENROLLMENTS.		AVERAGE DAILY ATTENDANCE.		Number of days School was in session during the year	Whole number of pupils received by transfers after the first week of School Year	Whole number of pupils promoted from lower to higher grades at the beginning of each School Month, not including the first month of the year	Whole number of pupils put down from a higher to a lower grade after the commencement of the School	Number of teachers who are graduates of the California State Normal School	Number of teachers who are graduates of any other State Normal School	Number of teachers who subscribe for some Educational Journal	Number of graduates of the Girls' High School of San Francisco
	BET. 6 AND 16 YEARS.	OVER 16 YEARS.	Female.	Male.	Male.	Female.	Male.	Female.								
Broadway Primary	646	0	1856	0	329	317	213	187	210	48	26	20	2	0	0	2
Spring Valley Primary	349	0	1050	0	182	167	123.8	104.8	210	31	6	3	0	0	1	1
Fourth Street Primary	680	0	2185	0	307	373	231	298	210	67	10	12	3	0	0	5
Silver Street Primary	944	0	3134	0	544	400	389.5	284.5	210	101	15	12	3	1	0	4
Pine & Larkin St. Prim.	963	0	2730	0	389	574	244.9	294.9	210	99	41	17	1	1	0	3
Tyler & Jones St. Prim.	338	0	210	0	190	148	115	105	210	51	2	10	1	0	0	1
Greenwich St. Primary	812	0	2532.5	0	440	372	323.7	256.1	206	59	1	3	2	0	0	3
Hayes Valley Primary	673	0	1876	0	346	327	175	176	210	85	0	3	0	3	0	2
Union Primary	539	0	1680	0	195	344	165.8	254.8	210	31	0	0	1	0	0	2
Shotwell Street Primary	782	0	2146	0	374	408	254.5	286	210	109	27	15	1	0	0	3
Eighth Street Primary	755	0	2014	0	342	413	216.1	247.3	210	102	144	4	0	1	0	2
Powell Street Primary	602	0	1680	0	228	374	174	283	210	72	0	4	1	0	0	1
Tyler Street Primary	164	0	710	0	83	81	64	64	210	60	7	0	0	0	0	3
San Bruno	412	0	1446	0	208	204	165.4	150.6	210	62	10	0	0	0	0	3
West End	95	1	210	198	45	51	25.5	35	210	5	1	2	0	1	1	0
Fairmount	224	0	684	137	109	115	89.5	82.8	210	26	36	0	0	0	0	1
Laguna Honda	76	0	414	0	43	33	33.2	23.8	210	0	0	0	0	1	2	1
Noe & Temple St. Prim.	144	1	601	0	83	62	62.7	44.1	210	26	4	1	0	0	0	2
Point Lobos	44	1	0	210	25	20	12.8	11	210	2	2	0	0	0	0	0
Ocean House	49	2	0	210	27	24	15.2	16.1	210	4	0	0	0	0	1	0
Laguna Street Primary	217	0	491	0	116	101	87	68	130	72	2	0	0	0	0	3
Jackson Street Primary	60	0	275	0	37	23	41	24	118	70	1	0	0	0	0	0
Evening School	1032	1884	1011	3537	2560	356	683	73	161	0	0	0	2	3	1	0
Total	31388	2641	97591.5	11440	17995	16034	11764.5	10997.5	9687	4037	1325	319	74	38	42	137

REPORT OF THE CLASSIFICATION AND ATTENDANCE OF ALL THE PUBLIC SCHOOLS, AUGUST, 1876.

SCHOOLS.	NUMBER OF PUPILS.								
	1st Grade...	2d Grade....	3d Grade...	4th Grade...	5th Grade...	6th Grade...	7th Grade ..	8th Grade...	Total.......
Mission Grammar	51	57	102	202	205	70	70	......	747
Denman Grammar	151	174	233	187	121	53	10	......	929
Lincoln Grammar	98	185	225	421	206	63	......	......	1198
Rincon Grammar	49	96	133	208	81	39	......	......	606
Washington Grammar	34	38	86	93	108	69	71	77	576
Union Grammar	35	37	53	102	67	113	54	67	528
Broadway Grammar	54	90	58	107	185	57	45	......	596
Spring Valley Grammar	34	50	58	51	123	99	85	226	726
Hayes Valley Grammar	82	107	178	228	155	190	64	......	1004
South Cosmopolitan Grammar	121	143	237	191	119	65	57	......	933
North Cosmopolitan Grammar	44	60	108	162	128	107	55	......	664
Valencia Street Grammar	68	126	178	238	173	128	63	135	1109
Eighth Street Grammar	41	43	138	209	131	183	181	145	1071
Geary Street Grammar	38	32	66	105	108	128	165	223	865
Model	50	53	55	117	118	100	102	184	779
South San Francisco	7	17	17	18	55	84	89	133	420
Potrero	27	......	......	42	......	53	48	101	271
South Cosmopolitan Primary	......	......	61	156	206	169	114	221	927
Bush St. Cosmopolitan Primary	......	......	......	96	104	149	172	123	644
Columbia Street Primary	......	......	......	55	98	104	128	229	614
Lincoln Primary	......	......	......	......	146	111	126	314	697
Market Street Primary	......	......	......	......	68	163	267	390	888
Mission Primary	......	......	......	......	......	161	122	376	659
Market and Seventh St. Primary	......	......	......	......	25	39	66	177	307
Tehama Primary	......	......	......	......	108	164	117	497	886
Broadway Primary	......	......	......	......	......	66	119	299	484
Spring Valley Primary	......	......	......	67	57	49	57	91	321
Fourth Street Primary	......	......	......	......	58	117	191	284	650
Silver Street Primary	......	......	......	......	69	129	185	425	808
Tyler and Jones Street Primary	......	......	......	......	25	37	75	136	273
Pine and Larkin St. Primary	......	......	......	......	120	147	121	351	739
Greenwich St. Primary	......	......	......	......	61	123	123	375	682
Hayes Valley Primary	......	......	......	......	63	109	126	264	562
Union Primary	......	......	......	......	62	126	117	194	499
Shotwell Street Primary	......	......	......	......	137	132	127	280	676
Eighth Street Primary	......	......	......	......	51	62	115	320	548
Powell Street Primary	......	......	......	......	......	125	130	261	516
Tyler Street Primary	......	......	......	......	20	33	56	62	171
West End	3	3	5	3	8	16	10	39	87
Fairmount	......	......	......	22	16	40	35	88	201
Noe and Temple Street Primary	......	......	......	......	13	20	23	75	131
Point Lobos	1	2	2	......	7	5	9	6	32
Ocean House	......	......	3	2	6	8	7	12	38
Laguna Honda	2	7	......	8	11	5	10	13	56
Laguna Street Primary	......	......	......	......	......	......	59	201	260
Jackson Street Primary	......	......	......	......	22	30	27	56	135
Total	980	1320	1996	3090	3644	4040	3993	7450	26513
Boys' High	......	......	......	......	......	......	......	......	308
Girls' High	......	......	......	......	......	......	......	......	696
Evening	......	......	......	......	......	......	......	......	943
Grand Total	......	......	......	......	......	......	......	......	28460

REPORT OF CLASSIFICATION AND ATTENDANCE—Concluded.

SCHOOLS.	NUMBER OF TEACHERS.											
	1st Grade....	2d Grade....	3d Grade....	4th Grade...	5th Grade...	6th Grade...	7th Grade...	8th Grade...	WITHOUT CLASSES.			Total......
									GERMAN	FRENCH	PRIN'LS	
Mission Grammar	1	1	2	3	3	1	1	....	1	1	1	15
Denman Grammar	3	3	4	3	2	1	....	....	....	....	1	17
Lincoln Grammar	2	3	4	7	4	1	....	....	....	....	1	22
Rincon Grammar	1	2	3	4	1	1	....	....	....	....	1	13
Washington Grammar	1	1	2	2	2	2	1	1	....	....	1	13
Union Grammar	1	1	1	2	1	2	1	1	....	....	1	11
Broadway Grammar	1	2	1	2	3	1	1	....	....	....	1	12
Spring Valley Grammar	1	1	1	1	2	2	2	4	...	....	1	15
Hayes Valley Grammar	2	2	3	4	3	3	1	....	1	1	1	21
South Cosmopolitan Grammar	2	3	5	4	2	1	1	....	2	1	1	22
North Cosmopolitan Grammar	1	1	2	3	2	2	1	....	1	1	1	15
Valencia Street Grammar	1	2	3	4	3	2	1	2	1	2	1	22
Eighth Street Grammar	1	1	3	3	2	3	3	2	...	....	1	19
Geary Street Grammar	1	....	1	2	1	2	2	3	....	....	1	13
Model	1	1	1	2	2	2	1	3	....	....	1	14
South San Francisco	1	....	1	...	1	2	1	2	....	....	....	8
Potrero	1	....	....	1	....	1	1	2	...	...	....	6
South Cosmopolitan Primary	....	....	1	2	3	3	2	4	3	...	1	19
Bush St. Cosmopolitan Primary	....	....	....	2	2	3	3	2	3	1	1	17
Columbia Street Primary	....	....	....	1	2	1	2	4	...	...	1	11
Lincoln Primary	....	....	....	....	3	2	2	5	....	....	1	13
Market Street Primary	....	....	....	....	2	2	5	7	....	....	1	17
Mission Primary	....	....	....	....	....	3	1	5	...	....	1	10
Market and Seventh St. Primary	....	....	....	....	1	....	1	3	....	....	....	5
Tehama Primary	....	....	....	....	2	3	2	9	....	....	1	17
Broadway Primary	....	....	....	....	...	1	2	5	....	....	1	9
Spring Valley Primary	....	....	....	1	1	1	1	1	....	....	...	5
Fourth Street Primary	....	....	....	....	1	2	3	4	....	....	1	11
Silver Street Primary	....	....	....	....	1	2	3	6	....	1	1	14
Tyler and Jones Street Primary	....	....	....	....	1	1	1	2	....	...	....	5
Pine and Larkin Street Primary	....	...	....	....	2	2	2	6	....	....	1	13
Greenwich Street Primary	....	....	....	....	1	2	2	7	....	....	1	13
Hayes Valley Primary	....	....	....	....	1	2	2	4	....	...	1	10
Union Primary	....	....	....	....	1	2	2	3	....	....	1	9
Shotwell Street Primary	....	....	....	....	2	2	2	5	....	....	1	12
Eighth Street Primary	....	....	....	....	1	1	2	6	.. .	....	1	11
Powell Street Primary	....	....	....	....	....	2	2	4	....	....	1	9
Tyler Street Primary,	....	....	....	....	1	1	1	1	...	....	....	4
West End	1	....	....	....	....	1	....	....	....	..	....	2
Fairmount	....	....	....	1	1	1	2	....	....	....	....	5
Noe and Temple Street Primary	....	....	....	....	1	....	1	1	....	....	....	3
Point Lobos	1	....	....	....	....	....	....	....	....	...	....	1
Ocean House	1	....	....	....	....	....	. .	....	....	....	....	1
Laguna Honda	1	....	....	....	....	1	....	....	....	....	....	2
Laguna Street Primary	....	....	....	....	....	....	1	3	....	....	....	4
Jackson Street Primary	....	....	....	....	1	....	1	1	....	....	....	3
Total	26	24	38	54	65	70	66	118	12	8	32	513
Boys' High	....	....	....	....	....	....	....	....	....	....	....	9
Girls' High	....	....	....	....	....	....	....	....	....	....	....	20
Evening	....	....	....	....	....	....	....	....	....	....	1	32
Grand Total	....	....	....	....	....	....	....	....	....	....	....	574

NUMBER OF PUPILS STUDYING FRENCH, AUGUST, 1876.

SCHOOLS.	1st Grade...	2d Grade...	3d Grade...	4th Grade...	5th Grade. .	6th Grade...	7th Grade...	8th Grade...	Total.......
North Cosmopolitan Grammar.................	14	16	35	44	31	38	9	....	187
South Cosmopolitan Grammar.................	18	24	36	45	25	15	19	...	182
Hayes Valley Grammar..................	....	6	20	31	28	18	12	....	115
Valencia Street Grammar......	5	15	46	56	22	36	21	21	222
Bush Street Primary..................	....	...	....	20	23	33	18	52	146
Greenwich Street Primary....................	....	....	....	....	10	25	33	79	147
Total............	37	61	137	196	139	165	112	152	999
Boys' High.........	....	....	....	....	....	....	...	...	146
Girls' High	....	....	....	....	...	....	....	....	196
Grand Total.................	....	....	....	....	...	...	....	....	1,341

NUMBER OF PUPILS STUDYING GERMAN, AUGUST, 1876.

SCHOOLS.	1st Grade...	2d Grade...	3d Grade...	4th Grade...	5th Grade...	6th Grade...	7th Grade...	8th Grade...	Total......
North Cosmopolitan Grammar..................	10	24	42	61	51	52	39	. ..	279
South Cosmopolitan Grammar..................	75	83	135	111	73	38	30	....	545
Hayes Valley Grammar........................	8	7	30	82	42	45	36	...	250
Valencia Street Grammar...........	17	19	32	28	45	20	4	32	197
Bush Street Primary.........................	....	....	....	48	53	71	59	99	330
South Cosmopolitan Primary..................	....	....	44	118	127	128	84	202	703
Greenwich Street Primary....	....	....	....	....	19	44	59	181	303
Total......................	110	133	283	448	410	398	311	514	2,607
Boys' High..................................	....	....	....	....	....	....	...	....	79
Girls' High...........................	....	....	....	....	....	....	....	....	49
Grand Total......	....	....	....	....	....	....	....	....	2,735

Boys' High School--No. of pupils studying both French and German 3
Boys' High School—No. of pupils studying Latin...... 105
Boys' High School—No. of pupils studying Greek.................................. 51
Boys' High School—No. of pupils studying both Latin and Greek 51

SCHOOL LIBRARIES.

SCHOOLS.	NUMBER OF VOLUMES.	ESTIMATED VALUE.
Boys' High	692	$ 600 00
Girls' High	950	1,900 00
Mission Grammar	2	10 00
Denman Grammar	900	1,000 00
Lincoln Grammar	1,329	500 00
Rincon Grammar	300	200 00
Washington Grammar	646	260 00
Union Grammar	338	250 00
Broadway Grammar	508	800 00
Spring Valley Grammar	487	500 00
Hayes Valley Grammar	400	200 00
North Cosmopolitan Grammar	1,794	430 00
South Cosmopolitan Grammar	689	600 00
Eighth Street Grammar	617	400 00
Valencia Street Grammar	293	586 00
South San Francisco	106	25 00
Potrero	113	50 00
South Cosmopolitan Primary	207	50 00
Model	200	300 00
Lincoln Primary	120	100 00
Geary Street	14	25 00
Bush Street Cosmopolitan Primary	80	50 00
Market and Seventh Street Primary	79	30 00
Market Street Primary	260	180 00
Tehama Primary	160	273 85
Broadway Primary	115	150 00
Spring Valley Primary	31	25 00
Fourth Street Primary	60	20 00
Silver Street Primary	131	75 00
Pine and Larkin Street Primary	76	100 00
Tyler and Jones Street Primary	25	40 00
Greenwich Street Primary	200	75 00
Hayes Valley Primary	87	30 00
Union Primary	10	10 00
Shotwell Street Primary	95	80 00
Eighth Street Primary	75	100 00
Powell Street Primary	82	40 00
Tyler Street Primary	21	75 00
San Bruno	33	15 00
Fairmount	24	8 00
Laguna Honda	36	50 00
Noe and Temple Street	12	25 00
Point Lobos	....	....
Ocean House	31	20 00
Jackson Street Primary	....	....
Laguna Street Primary	20	15 00
West End	50	20 00
Evening School	129	45 00
Total	12,027	$10,337 85

SUMMARY OF MONTHLY REPORTS OF THE PUBLIC SCHOOLS FOR THE SCHOOL YEAR ENDING JUNE 30, 1876.

Number of days' attendance of pupils, girls	2,301,709
Number of days' attendance of pupils, boys	2,411,109
Number of days' absence of pupils, girls	151,375
Number of days' absence of pupils, boys	163,250
Number of cases of tardiness of pupils	45,741
Average enrollment of pupils, boys	13,705
Average enrollment of pupils, girls	12,785
Average number belonging	24,150
Average daily attendance	22,751
Percentage of attendance	94.2
New pupils entering without transfer, girls	4,865
New pupils entering without transfers, boys	6,635
Pupils received by transfer	6,255
Pupils transferred	4,223
Pupils left	6,196
Cases of suspension of pupils	208
Cases of truancy	1,418
Cases of corporal punishment	19,490
Cases of tardiness of teachers	2,305
Number of days' absence by teachers	2,497
Visits to parents by teachers	2,989
Visits to classes by School Directors	2,087
Visits to classes by Superintendent	852
Visits to classes by Deputy Superintendent	859
Visits to classes by other persons	16,240

I herewith present the report of the Deputy Superintendent for the year. I desire to call attention to the remarks and practical suggestions which Mr. Stone has presented.

Respectfully submitted,

HENRY N. BOLANDER,
Superintendent of Public Schools.

REPORT OF THE DEPUTY SUPERINTENDENT.

To Henry N. Bolander, Esq., *Superintendent of Public Schools:*

Sir—I beg leave to submit my Annual Report of the educational condition of the public schools of this city, for the school year ending June 30, 1876, together with such suggestions as have occurred to me.

During the fraction of a year elapsing between the incoming of the present Board of Education and the end of the school year, all the classes were visited by me, some of them repeatedly, and oral examinations were held to as great an extent as the time permitted.

So far as my observation has extended during this limited period, I am gratified to be able to say, that, as a general thing, the duties of the teachers seem to have been intelligently and conscientiously performed. There is a great deal of good, honest, useful work done in our schools, and while, on the other hand, there is much room for improvement, I have found, almost uniformly, on the part of the teachers, a desire for instruction and for suggestion as to better methods of teaching, which has been very gratifying, and which promises well for the increased efficiency of our system of public education.

In the able and exhaustive report of my predecessor, attention was particularly called to some of the imperfections which exist in our public schools. As the result of my own observation and reflection, I concur entirely with the conclusions reached in that report.

With regard to the matter of supervision, it is evidently impossible that the Superintendent and his deputy can effectually inspect and supervise all the classes of so large a department as ours. In the absence of a sufficient number of inspectors or examiners, it becomes necessary that a large part of the work be devolved upon the Principals of the schools. This fact renders it especially important that these should be carefully selected, that they should be competent and conscientious teachers, able and willing not only intelligently to criticise the work of their subordinates, but to supply to them all needed information and instruction. They should also consider it strictly their duty to report to the proper authorities all instances of weakness or unfaithfulness on the part of their teachers.

Under the present arrangement nearly all the Principals are relieved from teaching, and it is, therefore, entirely practicable for them to inspect, constantly and carefully, all the classes in their respective schools. They should be held to a strict accountability for the character of the instruction furnished by their teachers and the discipline exercised by them, and their reports upon the condition of their schools should be received with respect.

If a Principal has a weak and inefficient teacher, and he finds that, after patient instruction and suggestion, there is no improvement, either from incapacity or unwillingness, the recommendation of the Principal for the removal of such a teacher should be at once responded to. In the terse and well-chosen words of Ex-President Davis: "Give your Principals full swing, and hold them accountable for results."

It has been thought advisable, after long consultation with some of the most experienced teachers in the Department, to modify the course of study, under which, for some years past, the work of instruction in the schools has been performed.

In revising the course of study, the points aimed at in the two principal branches of instruction have been as follows:

In arithmetic the mental work must always precede and accompany the written. No new process in written work should be entered upon until the pupils have been so well drilled in the mental operation that the idea of the new step is clearly seen. A considerable number of obsolete and useless subjects have been entirely dropped, and an effort has been made to contract the amount of arithmetical work with a view to making it more immediately practical.

Text-books are dispensed with to a much greater extent than heretofore, devolving upon the teacher the duty of condensing the instruction in this branch, and of presenting it to the class in the simplest and most direct manner.

In grammar, the instruction, from the Seventh Grade to the First, inclusive, is based upon the Language Primer and Language Lessons of Swinton—works which are recognized as constituting a new departure in the study of language. The instruction is so distributed, that, if the directions of the Manual are faithfully followed, it will be almost impossible for a scholar to pass through the different grades without obtaining a full and practical knowledge of the English language. A great deal of attention is paid to the actual writing of of good English, and but little to the formal and mechanical processes of parsing and analysis, over which so many teachers and scholars have vexed their souls from time immemorial.

Enough time has not yet elapsed since the introduction of the new course to decide fully upon its value and availability, but it is confidently hoped that the work of the different grades will be found to be more equally distributed, and to be in such a shape that it can be more satisfactorily accomplished than heretofore.

I would recommend that the attention of the teachers of the fifth, sixth and seventh grades be especially called to the fact that a large proportion of the scholars in our public schools never go beyond these grades, and that it is specially desirable that the work in them be made as practical as possible.

In arithmetic, particularly, I fear that too much time has been given to an attempt to master the analysis of numbers, and too little attention paid to that drill in common work upon which depends the real value of the knowledge of numbers in the ordinary business of life.

I hold that scholars who have creditably accomplished the work of the fifth grade should be able to perform readily and accurately any ordinary examples in the four ground rules of arithmetic, to write a fair and legible hand, to read aloud without hesitation, to spell correctly all the common words of the language, and should have the ability to express themselves correctly in speech or writing. To this should also be added a good knowledge of the geography of their own country and State.

This does not seem to be an unreasonable requirement, and yet no one knows better than teachers themselves how imperfectly it is accomplished, even in higher grades.

The fact is, we have attempted too much, and in going over a wider ground we have, perforce, sacrificed that thoroughness and readiness which form the true value of an ordinary education.

ANNUAL EXAMINATIONS.

There has been for some time past a growing feeling in the Department that the effect of the annual written examinations for promotion was not beneficial upon the general well being of the schools; that it would be possible to make the promotion from grade to grade quite as satisfactorily upon the judgment of the class teachers and the Principals, aided by their record of such examinations as had been held from time to time in the classes. It was thought that thus the usual unhealthy excitement of the last month of the school year might be replaced by steady and regular instruction, and that teachers and scholars might close up the year in better condition of mind and body. Accordingly, the Committee on Classification directed the Principals to give special attention during the last half of the Fall Term to the subject of classifying their schools, and at the close of the year to promote those only who had satisfactorily accomplished the work of their grade, granting simple certificates of promotion, without statement of percentages in the different studies.

Furthermore, the Principals were authorized to complete the classification of their schools for the ensuing year, wherever it was deemed expedient, during the last week of the term; and this was so completely and thoroughly done in many instances, that, at the beginning of the present term, lessons and the routine of school work were resumed as if only a day or two had intervened.

It was with some misgiving that so radical a change was recommended, but now that the schools have reassembled, I believe it is the general conviction that the classification is quite as satisfactory as in previous years.

A great majority of the teachers, as well as of the parents of pupils, are satisfied that the change is a decided benefit.

A partial exception was made in the case of the fifth and the first grades. The fifth being the highest primary grade, it was thought expedient to assist the judgment of the teachers by submitting the pupils to an examination in arithmetic, language, geography, and spelling.

The first grade classes were examined, as usual, at the respective high schools, during the last week of the term, the subjects of examination being limited to arithmetic, grammar, geography, word analysis, spelling, and history.

In both these grades, twenty-five per cent. of each class were promoted honorably, on their record for the year, and were excused from the final examination.

In the first grade classes the record for the year was considered as of equal value with the result of the examination, and promotions were made on the average standing.

I am convinced that the principle of relieving the highest section of a class from the final examination, and promoting them entirely upon their record, is a good one. The steady, persistent, honest work of the year is thereby taken as a standard, and not the result of a single examination at its close.

NORMAL CLASS.

The want of a suitable Normal School in this city has long been felt by all who are interested in education. Every year teachers have been appointed who had not the least idea of the art of instruction, and who, although industrious and willing, were obliged to gain by painful experience that training in their business which was necessary to render them valuable teachers. An important step toward such a school has been taken in the establishment of a Normal Class in connection with the Girl's High School, intended to give one year's instruction in methods of teaching to graduates of that institution. A competent teacher has been placed in charge, and the class numbers some thirty-six members. Two classes in the Model School on Geary street have been set aside as training classes, and members of the Normal Class are detailed in turn to take charge of them, under the instruction of experienced teachers.

HALF-TIME CLASSES.

It is well-known that the pressure upon the eighth grade classes leads to their being overcrowded in many of our schools. I would suggest to the Board that the most economical way of meeting this difficulty would be to establish in rented rooms small two-class schools on half-time. This plan has been successfully adopted in Oakland and in Los Angeles, and I am disposed to think that if the Board would try it in a few cases it would be found to be a solution of a difficult problem. No sensible parent would wish his little child of six or seven years to be confined in school longer than three hours a day, if arrangements could be made by which proper instruction could be given in that time. Either the same teacher could take charge of both morning and afternoon classes, or, better still, the classes could have distinct teachers at salaries corresponding to the time.

MARKING RECITATIONS.

I believe it would be better that the plan of marking every recitation of each pupil, which is still adhered to by very many of our teachers, should be abolished.

In the first place, it does not accord with the best ideas of education to make every recitation an examination. It leaves altogether too little time and thought for teaching, which I hold to be the principal duty of a teacher.

Secondly, the necessity of diverting the mental attention of the teacher too frequently to the matter of judging and recording in figures the answer of the pupil, is certainly the occasion of a great loss of teaching force on the part of the teacher.

The record should be made only at stated periods, when there should be really an examination, either oral or written.

PREPARATORY CLASSES.

After the examination in May, it was decided by the Classification Committee to collect into classes all the first grade scholars who failed of promotion, and set them to work, under competent teachers, reviewing their first grade studies. It was argued, in favor of this arrangement, that the great majority of these boys and girls would leave school for good, unless they had such an opportunity, that many of them were almost as well prepared for High School work as those who passed the examination successfully, and that it would be better in any case to concentrate their work and fit them if possible for promotion in six months, rather than to throw them a whole year behind by remanding them to their first grade classes. Enough pupils availed themselves of the advantages offered to form three classes, one of boys and two of girls. These classes have been giving their attention principally to arithmetic, grammar and geography, and will be subjected to an examination in December next. Those who pass successfully, will be admitted to the Junior Class in the High School.

HIGH SCHOOLS.

These schools were frequently visited by me during the last half year, and the character of the instruction given to the scholars carefully observed. With the exception of the circumstance that in some of the classes too much time and thought seems to be given to the daily marking of recitations, I have only commendation for the work of the teachers.

The elastic character of the course in the Boys' High School seems to be a great improvement on the rigid routine of the past.

I have no doubt that scholars are often sent to both these schools at too young an age, and that a strict limitation in that regard would be beneficial both to the school and to the pupils themselves.

I cannot close this report without referring to a subject to which my attention has been directed, both by my own observation and by the occasional remarks of others. I refer to the care which teachers should exercise in regard to the language which they use in the presence of their pupils.

In the first place, they should be careful to use none but correct language. It seems hardly credible that those to whom is committed the responsible charge of forming the minds of the young, should allow themselves to speak in a slipshod, ungrammatical manner in their classes, but this is certainly sometimes the case.

This is a matter which study and care will speedily improve, and it is the duty of a Principal to call the attention of teachers to any such careless habits.

But far more reprehensible than this, is the use of language on the part of the teacher which is calculated to wound the feelings of the scholar. If there is a human being who is especially entitled to our respect, it is a little child. The maxim of the Romans, "*Puero reverentia debet,*" was founded in the deepest knowledge of philosophy and of human nature. Children are far more sensitive to cutting, sarcastic, or abusive language, than adults, and it is an outrage for a teacher to apply such epithets to them as would hurt their feelings, excite their resentment, or blunt their sensibilities. Here, again, the special care and attention of a Principal should be exercised, to check any such tendency on the part of his subordinate teachers.

Respectfully submitted,

DUDLEY C. STONE,
Deputy Sup't of Schools.

ANNUAL EXAMINATIONS—MAY, 1875.

CIRCULAR TO PRINCIPALS AND ASSISTANT TEACHERS.

Principals of Grammar Schools are requested to fill out the proper blanks, with the names of their first grade pupils, in alphabetical and vowel order, recording the average term standing of each in the appropriate column. These blanks must be sent to the respective High Schools on Monday, May 22d. Where a class is composed of both boys and girls, two separate lists must be made out. The names of those scholars who have been promoted, honorably, on their term standing, will be designated by a letter H, in *red ink*, in the column headed "per cent. in examination." Their term standing must be given with that of the other members of the class.

The examination in the fifth grades is intended simply as an aid to the Principals in promoting the scholars of that grade. Their term standing will also be taken into consideration, and those only who attain an average standing of 70 per cent. will receive Certificates of Promotion.

In all cases where it may seem desirable, Principals are authorized to arrange their classes for the coming year so as to avoid at least a portion of the confusion and delay incident to the reopening.

Principals and Assistants will observe the following rules:

1. Principals are instructed to assign assistant teachers, so that no teacher will have charge of his or her own class during any examination.

2. Teachers will require the name and the age of each pupil to be written at the head of each paper; also, the name of the school, the grade of the class, the name of the teacher of each class, and the name of the examiner in charge of the class during the examination.

3. Teachers will give the pupils no assistance during the examination, but they may give any explanation necessary to a fair understanding of the questions. The papers of all pupils detected in copying or communicating during the examination should be rejected.

All books relating to the subject under examination should be collected by the examiner before commencing the exercises.

4. All papers should be strictly and impartially examined and credited. The Committee on Classification does not desire to fill any grade with incompetent or unprepared pupils.

5. Principals will preserve the papers of each class for the use of the Committee on Classification.

6. All teachers are required to give their undivided attention to the class while passing any examination.

No crediting of papers or other work should be performed during such exercises.

7. No general recess should be given to the classes while passing an examination.

8. In order to secure uniformity in crediting, Principals will arrange the papers to be credited so that the same teacher will credit all the papers of the same study in each grade, except in schools having several classes in the same grade.

9. The examination questions will be delivered, on the order of the Principal, by 8 o'clock, A. M., on the day of the examination.

10. Blank certificates of promotion will be furnished to each Principal, and must be delivered to pupils before the close of the term.

11. Certificates of graduation of pupils of the first grade will be made out at the High Schools, and will be delivered to the proper parties on Saturday, May 26th, at 3 P. M.

12. Principals are authorized to hold such closing exercises, under the rules of the Board, as they may desire.

13. The credits in each study must be copied into the book of "Record of Examination."

As soon as all the credits of the pupils, including those of the first grade, shall be entered in this book, the Principals are requested to send it to the Board of Education for the inspection of the Committee on Classification.

The pupils of the first grade classes will be examined for graduating from the Grammar Schools, and for admission to the High Schools, on Monday, Tuesday and Wednesday, May 22, 23, 24.

The girls will meet on Monday, May 22, at 9 A. M., at the Girls' High School. The boys will meet at the same time at the Boys' High School.

The teachers of the Girls' and Boys' High Schools will examine and credit all the papers of the candidates for admission to these schools.

Deputy Superintendent Stone will have the general supervision of the examination and of the crediting of the papers.

It is desirable to have the papers of this examination carefully credited, and the work completed as soon as possible.

The percentage of credits for graduation and for promotion, is fixed at 70 per cent.

The order of examination in fifth grade classes will be as follows: Monday, May 22d—9 A. M., Arithmetic; 1 P. M.—Language. May 23d, 9 A. M.—Geography; 1 P. M.—Spelling.

PAPERS USED IN THE EXAMINATION OF THE PUBLIC SCHOOLS OF SAN FRANCISCO IN MAY, 1876.

FIRST GRADE.

ARITHMETIC.

Ten Questions, ten Credits Each.

1. (*a*) $(72.1 \times 6.37) + 24.151 + 6.0007 - 324.4915 = ?$
   (*b*) Divide the result by .0324.
   (*c*) Give the rule for addition of fractions.
   (*d*) $\frac{5}{11} + \frac{3}{5} + \frac{4}{9} + \frac{2}{3} - \frac{1}{2} - \frac{3}{4} = ?$
   (*e*) Find the cost of 3,290 lbs. of hay at $22 per ton.
2. (*a*) A boy sold a book for $2½, which was $\frac{3}{5}$ of what it cost him; how much did he lose by the bargain?
   (*b*) Find the L. C. M. of 26, 65, 10, 78, 12, 18.
3. (*a*) How many cubic ft. in a room 14.5 ft. long, 12.05 ft. wide, 10.1 ft. high?
   (*b*) How many yards of carpet one yard wide will cover the floor?
4. (*a*) Sold tea at 115 per cent. of its cost, and gained 9 cents on a pound. What was the cost per pound?
   (*b*) Express $\frac{9}{15000}$ decimally.

5. A note for $1,200 was dated June 7th, 1870. The following payments were made:

Dec. 9th, 1872.......................$500.
May 7th, 1873.................. 700.

The note being 1¼ per cent. per month, what was due January 1st, 1874?

6. How much will it cost to make a walk 8 ft. wide and 225 ft. long, when it costs $30 to make one ten ft. wide and 90 ft. long?

7. (*a*) Divide $620 among three persons, so that their shares shall be in the proportion of 3, 7, and 10.
   (*b*) What part of a rod is 8 ft. 6 in.?

8. A ladder 40 ft. long will reach a window 32 ft. high on one side of the street, and another window on the opposite side of the street, 24 ft. high. What is the breadth of the street?

9. Find the square root of 39.9625.

10. (*a*) How many square feet of board in a tight fence surrounding a field one mile square, the fence to be five feet high?
    (*b*) Find the diagonal of the field, in feet.

MENTAL ARITHMETIC—25 Credits.

10 Questions, 1 Credit Each.

[Read twice; allow one minute for solution. Answers to be written in columns in regular order.]

1. Add $\frac{5}{7}$ and $\frac{2}{3}$.
2. 12 is $\frac{3}{11}$ of what number?
3. 8 is $33\frac{1}{3}$ % of what number?
4. What is 6 % of 400?
5. Subtract $\frac{3}{8}$ from $\frac{11}{24}$.
6. Reduce $4\frac{1}{3}$ to an equivalent fraction, having 9 for a denominator.
7. 7 times one-ninth of 63=?
8. $\frac{4}{5}$ of $20+\frac{3}{4}$ of $16=$?
9. 40 lbs. of Sugar at $10\frac{1}{2}$ cents.
10. $\frac{16}{17}\div 4\times 3=$?

Five questions, 3 credits each. The questions to be written on the board, and the full analysis to be written by the pupils.

1. A does a piece of work in 5 days, and B in 7 days. In how many days will they do it working together?
2. D does a piece of work in 12 days, D and E in 5 days. In how many days will E do it working alone?
3. What number diminished by its fourth and its eighth and 13 more=27?
4. If $16\frac{2}{3}$ per cent. is lost by selling a watch for $45, what did it cost?
5. $7\frac{1}{3}$ is $\frac{11}{5}$ of what number?

GRAMMAR.

Eight Questions, ten Credits Each; one Question, twenty Credits.

1.

Flag of the free hearts' only home,
By angel hands to valor given;
    Thy stars have lit the welkin dome,
And all thy hues were born in heaven.
Forever float that standard sheet!
    Where breathes the foe but falls before us,
With Freedom's soil beneath our feet,
And Freedom's banner waving o'er us?

Express the meaning of the above lines in prose, observing the following directions:

Put the first statement into an interrogative and negative form; change the second to a question; change the third to a simple declarative form, and the last to a negatively declarative sentence.

2. Give the construction of each noun and pronoun in the stanza.

3. Parse *given*, *only*, *breathes*, *waving*, *angel*.

4. Under what circumstances must a collective noun have a singular verb? Illustrate.

5. Write a sentence having the subject modified by an adjective, a noun in the possessive, and a relative clause; the predicate modified by an adverb and a phrase.

6. (*a*) Write the perfect participles of fly, need, wear, rest.
   (*b*) Change to the plural—axis, chimney, loss, leaf, criterion.

7. Compare gay, active, fore. Give the masculine gender of bride, roe, widow. Give a synopsis of drive in the third person singular, indicative mood.

8. Mention all the methods of forming plurals of nouns, with examples.

9. Write a short composition of 15 or 20 lines on the subject of the coming vacation. (10 credits for composition, and 10 for accuracy in spelling, punctuation, and use of capitals.)

GEOGRAPHY.

10 Questions, 5 Credits Each.

1. Name and locate the ten most important cities of the Union.

2. (*a*) Name all the States lying along the Mississippi River, on the eastern side, in their order, beginning at the most northern.
   (*b*) Name all on the western side, beginning at the south, in their regular order.

3. Mention the principal ocean currents, and describe, specially, the current which has most influence upon the climate of Western Europe. Show how this effect takes place.

4. Tell where the following mineral productions are found: Quicksilver, lead, salt, gold, coal, tin, copper, iron, silver, and sulphur.

5. What are the different circumstances which affect the temperature of places on the earth?

6. Name and locate five important plateaus.

7. Explain the distinction between an isthmus and a cape, a plain and a desert, a prairie and a plateau, a valley and a gorge, a strait and a channel.

8. If one wished to go on a voyage from Philadelphia to Canton, one of which three courses might he take?

9. Give the latitude of San Francisco, Yeddo, Cape Horn, London, Madrid.

10. Bound California; give five principal cities, five principal rivers, area and population.

SPECIAL QUESTIONS.

Correct answers to each of these will cancel one credit of failure on the regular questions.

1. Where are the Adirondack Mountains, and for what are they noted?
2. To what nation does Cuba belong?
3. Mention five vegetable products of the United States in the order of their adaptation to climate, beginning at the north.
4. What meridian is a part of the eastern boundary of California?
5. What parallel is a part of the northern boundary of the United States?

WORD ANALYSIS.

10 Questions, 5 Credits Each.

1. Write sentences containing the following words, properly used: Sensitive and sensible, creditable and credible, honorary and honorable, artist and artisan, truth and veracity.
2. Give three words derived from the Greek root *chronos*, with definitions; three from *pendeo*; three from *doceo;* three from *audio;* three from *mitto;* three from *curro;* two from *dominus*.
3. Give five prefixes and five suffixes from the Latin. Give their meanings, and illustrate by examples.
4. Give the derivation and history of the following words: Tariff, tribulation, savage, rival, lunatic, calculate, Bible, alphabet, politics, epidemic.
5. Explain the difference between the words invent and discover, pride and vanity, character and reputation, temperance and abstinence, pleasure and happiness.
6. Combine sale and able, right and ous, rare and ify, courage and ous, abound and ant.
7. Name five Latin and Greek roots, with their meanings. Mention none that have been used in the previous questions.
8. Give five Latin phrases, with their meanings.
9. Name the proper derivatives from Genoa, Malta, Norway, Venice, Wales.
10. Define suffix, prefix, root, primitive, derivative.

HISTORY OF THE UNITED STATES.—(Administrations.)

10 Questions, 5 Credits Each.

1. Name all the Presidents in order, and tell which of them have been elected for a second term.

2. Give one important event in each of the following administrations: Jefferson's, Monroe's, Polk's, John Adams', Madison's.

3. For what will Lincoln be especially remembered ? Sherman? Farragut? Captain Winslow? General Burnside?

4. Give an account of one important action of the last war with England.

5. Where was Washington inaugurated President of the United States? Who was his Secretary of the Treasury ?

6. What territory has the United States acquired since the Revolution? State from what nations and in what manner two of these acquisitions were made.

7. Who were the two most prominent Generals in the Mexican War? In what parts of Mexico did they operate? What was the result of that war? What treaty closed it? In what year did it begin?

8. Name five great battles of the rebellion; five Union and five Confederate commanders.

9. Name five remarkable American inventions during the period under consideration, giving their dates, and the name of the inventor of each.

10. State the change that has taken place in the United States during the past hundred years in respect to number, area, population.

SPECIAL QUESTIONS.

A correct answer to either of these will cancel two credits of failure.

1. What was the Missouri Compromise?

2. For what achievement was Decatur noted?

3 On what day did two Presidents die? Name them.

4. Name four Indian Chiefs noted in the history of our country. In what section did each live?

SPELLING.

Twenty-five words, one Credit Each.

1. Reference,
2. Receipt,
3. Audience,
4. Intercede,
5. Promontory,
6. Stationery,
7. Precedent,
8. Revenue,
9. Difference,
10. Promissory,
11. Descent,
12. Dividend,
13. Parallel,
14. Strychnine,
15. Dilatory,
16. Sympathy,
17. Independent,
18. Conceive,
19. Supersede,
20. Indicative,
21. Cemetery,
22. Reservoir,
23. Plaintiff,
24. Counselor,
25. Jeopard.

Give three common rules of spelling—five credits each. Abbreviations—half-credit each.

1. Maine,
2. Doctor of Laws,
3. Colonel,
4. Doctor of Medicine,
5. Next month,
6. Lieutenant,
7. Afternoon,
8 Last month,
9. Noon,
10. Amount.

Dictation—five credits.

The eulogium pronounced upon the character of the State of South Carolina, by the honorable gentleman, for her revolutionary and other merits, meets my hearty concurrence.

Let us have the magnanimity to lay aside our antipathies and prejudices, and consider the subject in a political light, separating from it everything of a sentimental nature.

FIFTH GRADE.

GEOGRAPHY—25 Credits.

1. Bound California, Nevada, Oregon, Washington Territory. Name six important places in California, and two in each of the others.

2. Name ten of the most important cities in the United States, with their locality. In what part of the United States is Cotton raised? Tobacco? Wheat? Sugar?

3. Define Promontory, Volcano, River. Name three islands in San Francisco Bay, and two prominent mountains visible from Russian Hill. Name five rivers of the Pacific Coast.

4. Name five mineral products and five vegetable products of California. Name three localities in California noted for great natural beauty and grandeur.

5. Name the Counties around the bay of San Francisco.

Where are Clear Lake, Tahoe Lake, Tulare Lake, Pyramid Lake, Mare Island, Mt. Shasta?

ARITHMETIC.

25 Credits.

1. 442×78+662+59—384—829—1562—15÷17=?
2. 78421+90063+29468+24998+72876+32549=?
3. 48507÷69=? Prove the work.

4. 72104—9872=? 88029—53999=?

5. Find the amount of the following bill:

56	Oxen at	$24.53
79	Cows at	9.50
215	Sheep at	3.25
86	Pigs at	5.94

LANGUAGE.

Twenty-five credits.

1. Arrange in columns the nouns, verbs, adjectives, pronouns, prepositions, and adverbs in the following verse:

> "But, at last, this slow walker
> Came up with the hare,
> And there fast asleep,
> Did he spy her;
> And he cunningly crept
> With such caution and care,
> That she woke not
> Altho' he passed by her."

2. Correct, if wrong, the following sentences:
   (*a*) Him and me done the work.
   (*b*) My father took John and I to the fair.
   (*c*) Them is my books.
   (*d*) We will have snow soon.
   (*e*) What have you got?

3. Put two suitable adjectives and one suitable adverb into each of the following sentences:
   (*a*) The steamboat runs.
   (*b*) A lion roared.
   (*c*) The sun sets.
   (*d*) The general retreated.
   (*e*) The girl was studying.

4. Draw a line under the subject, and two under the predicate of each of the following sentences:
   (*a*) We shall find our friends here.
   (*b*) Where can James be.
   (*c*) Here comes the King of Denmark.
   (*d*) You must attend closely.
   (*e*) Bears roam in the forest.

5. (*a*) Write two declarative sentences.
   (*b*) Two interrogative.
   (*c*) Two imperative.
   (*d*) Two exclamatory sentences.
   (*e*) Write sentences containing the words *got*, *done* and *seen*, properly used.

SPELLING.

Twenty-five credits.

Furnace.
Leisure.
Medicine.
Gymnast.
President.
Celery.
Surfeit.
Giraffe.
Tennessee.
Seizure.
Machinery.
Asparagus.
Nuisance.
Whipping.
Michigan.
Leopard.
Pigeon.
Melon.
Strychnine.
Balance.
Toothache.
Palace.
Murmur.
Croup.
Shoeing.

GIRLS' HIGH SCHOOL.

SENIOR CLASS.

ALGEBRA—February 2, 1876.

1. Define Algebra, exponent, radical, Arithmetical progression, proportion.

2. The sum of five numbers in Arithmetical progression is 35, and the sum of their squares is 335; find the numbers.

3. Find the sum of $7+\frac{29}{4}+\frac{15}{2}$, etc., to 16 terms.

4. Solve the equation $\frac{3x-1}{\sqrt{3x+1}}=1+\frac{\sqrt{3x-1}}{2}$

5. Discuss the values $a-x$ in the problem of the lights, supposing $b=c$.

6. Give the rule for the solution of an affected quadratic equation.

7. What two numbers are those whose difference is 8, and the sum of whose squares is 544?

8. When do the roots of a quadratic equation become imaginary; and why?

9. Solve the equation $\frac{x+22}{3}-\frac{4}{x}=\frac{9x-6}{2}$

10. Extract the square root of $x^6+4x^5+10x^4+20x^3+25x^2+24x+16$.

JULIUS CÆSAR.

1. Where and at what period did the events occur which are represented in Shakespeare's tragedy of Julius Cæsar?

2. Give the names of the most important characters, and state their position in the Roman Commonwealth.

3. Give three of the most frequently quoted passages of the play.

4. State, briefly, the argument of the tragedy.

5. Under what circumstances, and by whom were the following passages spoken:

(*a*) "Domestic fury and fierce civil strife
Shall cumber all the parts of Italy."

(*b*) "Good Volumnius, thou know'st
That we two went to school together."

(*c*) "Then like a Roman bear the truth I tell,
For certain she is dead, and by strange manner."

6. Mention five words from the play which are now obsolete, five words whose meanings are obsolete, and two quotations containing obsolete constructions.

7. How does Shakespeare vary from history in his representation of events?

8. Scan the passages given in the fifth question, and state the peculiarities of the versification, defining the terms used.

ARITHMETIC.

1. (*a*) Multiply together the *sum*, the *product*, and the *difference* of $\frac{2\frac{1}{2}}{3\frac{3}{4}}$ and $\frac{3\frac{11}{15}}{2\frac{1}{3}}$

(*b*) $(7.32\times6.07+3.1407-1.141)\div3.21=?$

2. (*a*) What per cent. of 24 is 23?

(*b*) 6 % of 11 is what % of 12?

3. Find the contents of a field, in acres, which is $76\frac{7}{25}$ rods long and $18\frac{3}{4}$ rods broad.

4. Multiply $\frac{7}{8}$ of $\frac{8}{11}$ of $\frac{11}{14}$ by $\frac{5}{17}$ of $\frac{17}{19} \times \frac{19}{25}$.

5. How many rolls of paper, each 9 yds. long and 2 ft. wide will it take to paper the walls of a room 18 ft. long, 15 ft. wide and 12 ft. high.

6. Interest of $618.50 at 1½ % per month for 1 year, 7 months, 16 days.

7. Define—prime number, least compound multiple, greatest common divisor, odd number, composite number.

8. Find the diameter of a circle containing 16 acres of land.

9. An importer bought sugar at 5½ cents a pound, and sold it to the wholesale dealer at a profit of 16⅔ %; the last to the retailer at 25 % profit, and the retail dealer to his customers at 20 % profit. Find the selling price of the sugar.

10. A tree is partially broken 26 ft. from the top, which strikes the ground 16 ft. from the foot of the tree. What was the height of the tree?

ENGLISH LANGUAGE.

1. What languages enter into the composition of the English? What proportion of the words come from each, and at what time did each element enter the language?

2. Give the principal characteristics of each element.

3. Give examples of as many elements as possible.

4. Explain the method by which words are introduced into the language.

5. Give some idea of the difference between the English of Chaucer's time and that of ours.

6. What particular benefits do we receive from the Anglo-Saxon element?

7. Give ten pairs of words which are synonomous, or nearly so, one of each pair a Saxon word, and one from the Latin.

8. What advantages do we experience from the Norman French element.

9. Give the Thirteenth Head in Craik's English Language.

10. (*a*) What classes of words come from the Greek, the Arabic ?
    (*b*) What is the origin of the verb "to be"?

GRAMMAR.

1. Define a primitive word, a pronominal adjective, a passive verb, a compound word, a derivative, and give one example of each.

2. Give five uses of capital letters, two uses of the period, two of the apostrophe, and one of the colon.

3. Write the plurals of *money* and *pony*, and the rules that apply. What difference is there in the use of the letter *s*, in the inflection of nouns and that of verbs?

4. Compare fore, far, worse, and most; and write a sentence containing the positive degree of the adverb *worst*.

5. Correct the following, if wrong, and give reasons for the correction:

The teacher promoted Sarah and I to the first division.

I wish to carefully correct this exercise.

The use of wine, brandy, and beer, are condemned by many.

A large assortment of the finest goods have just been received by us.

Who did you find in the room?

6. Let me go home.

Analyze and parse the above.

7. Make five separate statements about the State of California.

Combine them into one compound or complex sentence.

8. Write a synopsis of the verb *drink*, in the indicative and potential moods.

9. Name four cases in which the pronoun *that* is used in preference to who or which.

10. Name five different uses of the word *that*, illustrating each by a sentence.

RHETORIC.

1. How many ways are there of rendering style effective, and what are they?

2. Give and define the violations of brevity, and illustrate each by a quotation from Julius Cæsar.

3. Define the following: simplicity, strength, ludicrous, pathos. Mention with each of these a work characterized by that particular quality.

4. What are the different kinds of rhetorical sentences? Give with each an author whose style is characterized by that form of sentence.

5. What is the first requisite of the paragraph? What are the means of reference employed in a well-constructed paragraph?

6. What are the three methods of description? Mention the aids to description.

7. To what does narrative composition apply? What is the first principle of narrative composition?

8. From what are the materials for poetry selected?

9. Give and define the three grand divisions of poetry, giving an example of each.

10. What are the five rules for the construction of sentences?

NATURAL PHILOSOPHY.

1. Define cohesion, adhesion, specific gravity, impenetrability, equilibrium.

2. Explain the action of the suction pump, with diagram.

3. How does sound originate? How is it transmitted? What is its velocity

in air? What medium, gaseous, liquid or solid, transmits sound most rapidly? How is the octave of a note produced?

4. Find the specific gravity of a solid which weighs 16½ ounces in the air, and 13 ounces in water? Explain the process. A flask containing 1,000 grains of water will contain 1,063 grains of a certain acid. What is the specific gravity of the acid?

5. What is heat? How does it affect matter? Name three good conductors of heat, and three poor ones. Why does ether when poured on the hand make it feel cold? At what temperature is water at its greatest density?

6. What is the law of reflection of light? What does light consist of? Name and describe the different kinds of lenses. How is light affected by a convex lens? By a concave lens? Give the velocity of light.

MIDDLE CLASS.

GEOMETRY.

1. (*a*) How is an angle inscribed in a circle measured?

(*b*) What angles can be inscribed in a segment greater than a semicircle?

2. Show that a radius which is perpendicular to a chord, bisects the chord and also the arc subtended by it.

3. Define postulate, theorem, axiom. State three axioms frequently used, and state two postulates, two theorems.

4. If a straight line is perpendicular to a radius at its outer extremity, what follows?

5. Show how to find the center of a given circumference?

6. How are the areas of parallelograms found? triangles? trapezoid?

7. In any triangle, if a line be drawn parallel to one side, how does it divide the other sides? Illustrate.

8. Under what four different sets of conditions can it be proved that two triangles are equal in all their parts?

9. If in a right angled triangle, a perpendicular be drawn from the vortex of the right angle to the hypothenuse, what three facts can be proved?

(*a*) Show that the square described on the diagonal of a square, is double the given square.

(*b*) To what is the square described on the sum of two lines equal?

HISTORY.

1. What were the Crusades, over what period of time did they extend, and what benefits resulted to the people of Europe from them?

2. Who were: Joan of Arc, the Chevalier Bayard, Wm. Caxton, Admiral Coligny, Wat Tyler?

3. Mention three great battles, and two noted leaders of the wars between England and France during the Middle Ages.

4. What causes can you give for the French Revolution? Mention four names of men noted for their connection with.

5. Mention the cause and result of the civil war during the reign of Charles I in England.

6. Name five important events in the life of Napoleon. Name five important battles in which he was engaged.

7. When did the Franco-Prussian war take place? What was the result? Name the French and Prussian sovereigns, and a prominent commander on each side.

8. Who were: Cromwell, Philip Augustus, Thomas à Becket, Saladin, Bismarck?

9. What was the Edict of Nantes? The effect of its revocation on arts and manufactures in England.

10. Why was Louis XIV called the Great King? Mention four important events of his reign.

CHEMISTRY.

1. Define Chemistry, Acids, Alkalies, Elements.
2. Give the symbols and molecular weights of three oxides of Iron, and one of Phosphorus.
3. What is Iron Pyrites, and what use is made of it?
4. Name the most *inert* element, the most *energetic*, the *lightest*, and one which is liquid at ordinary temperatures.
5. What is White Lead, how is it made, and for what is it used?
6. Tell all you can about Na.
7. What is the difference between distillation and sublimation?
8. Why does the dough rise, in making bread?
9. Name four alloys, tell their composition, and their uses.
10. Explain the difference between *cast* iron and *wrought* iron.

ALGEBRA.

1. Define binomial, residual, reciprocal, elimination, transposition.

2. (*a*) Prove that $a^0=1$; also, that

(*b*) $\frac{0}{b}=0$

(*c*) Factor x^6-7^6

(*d*) " x^2+3x+2.

(*e*) " $2x^3+4x^2-70x$.

3. (*a*) $(x^4-\frac{1}{x^4})\div(x-\frac{1}{x})=$ what ?

(*b*) $\frac{a}{2}-\frac{(ad-bc)\,x}{c\,(c+dx)}=$ what?

4. State the Binomial Theorem of Newton, as regards (1) the number of terms, (2) the signs, (3) the exponents, (4) the letters, and (5) the coefficients.

5. *Solve* and *verify* the following equation:

$$\frac{9x+3}{27}+\frac{3x-6}{2x-5}=\frac{2}{3}+\frac{3x+22}{9}$$

6. How many methods of elimination are there? Name them, and solve the following equation by all the methods:

$$3x-2y=9.$$
$$6x+4y=37.$$

7. When is a trinomial a perfect square? Give two examples.

8. Expand $(x+y)^6$ by the Binomial Theorem.

9. (*a*) How is a radical reduced to its simplest form?

(*b*) Reduce to their simplest form:

$$\sqrt[4]{80} \quad \sqrt{2527} \quad \sqrt{980x^5} \quad \sqrt{405y^9}$$

(*c*) Prove that $\sqrt{ab}=\sqrt{a}\times\sqrt{b}$.

10. Solve the following:

$${}^{2}\sqrt{\tfrac{5}{3}}+\tfrac{1}{6}\sqrt{60}+\sqrt{15}+\sqrt{\tfrac{3}{5}}.= \text{what?}$$

AMERICAN LITERATURE.

1. Mention ten prominent American authors—three poets, five writers of fiction, and two historians.

2. Name one work by each of the authors you have mentioned.

3. (*a*) Contrast Longfellow's poetry with that of Whittier.

(*b*) Compare Prescott's writings with those of Irving.

4. Who wrote the following: (1) The Culprit Fay; (2) Hyperion; (3) Adsum; (4) Poems of Two Friends; (5) The Blind Preacher; (6) The Winged

Worshippers; (7) Uncle Tom's Cabin; (8) Walden; (9) Battle Hymn of the Republic; (10) Dirge for Two Veterans.

5. Give a brief account of O. W. Holmes; name his principal works, and state the prevailing characteristic of his writings.

6. Name five of the best known female writers of the present day.

7. In what work do we find each of the following characters: Leatherstocking, Wouter Van Twiller, Baltus Von Slingerland, Bernard Langdon, Hayle & Kelso?

8. Tell the author of each of the following extracts, and the work from which it is taken.

(*a*) "Thou dost speak
Alone of God, who found thee as a drop
From His right hand—bidding the soul that looks
Upon thy fearful majesty be still,
Be humbly wrapped in its own nothingness,
And lose thyself in Him." —*Niagara. Mrs. Sigourney.*

(*b*) "Green be the turf above thee,
Friend of my better days!
None knew thee but to love thee,
Nor named thee but to praise."
—*Fitz Greene Halleck on the death of Drake.*

(*c*) "The day is done, and the darkness
Falls from the wings of night,
As a feather is wafted downward
From an eagle in his flight."
—*The Day is Done. Longfellow.*

(*d*) "I do not tremble when I meet
The stoutest of my foes,
But heaven defend me from the friend
Who never, never goes." —*My Familiar. Saxe.*

RHETORIC.

1. (*a*) What is the object of the use of figures in language? What can you say of their origin?

(*b*) Define and illustrate five of the principal figures.

2. Write a brief essay, of not less than fifteen lines, upon the special properties of style.

3. (*a*) Define rhyme, rhythm, blank-verse, stanza, and foot. (*b*) Define poetry. (*c*) Characterize Epic, Dramatic and Lyric poetry, by two distinct statements regarding each, and name examples of each, giving the name of the author.

4. What are the chief points of a good editorial?

5. (*a*) State your idea of the difference between good writing and bad writing,

(*b*) Name the chief points of a well written history.

SENIOR CLASS.

ENGLISH LITERATURE.

1. (*a*) What were the distinguishing characteristics of the Elizabethan period of English literature?

(*b*) Name ten authors of this period, with one work of each.

2. Write an essay of not less than fifteen lines on Milton, his times, life as a man and as an author, titles and characteristics of his works.

3. State the name of the poem from which the following extract is made and give a rhetorical analysis of the passage:

> The great brand
> Made lightnings in the splendor of the moon,
> And flashing round and round, and whirl'd in an arch,
> Shot like a streamer of the northern morn,
> Seen where the moving isles of winter shock
> By night, with noises of the northern sea.
> So flashed and fell the brand Excalibur;
> But ere he dipt the surface, rose an arm
> Clothed in white samite, mystic, wonderful,
> And caught him by the hilt, and brandished him,
> Three times, and drew him under in the mere,
> And lightly went the other to the King.

4. Quote from each of the following works, naming the authors: The Deserted Village, Essay on Man, the Bard, The Lady of the Lake, Hymn on Mont Blanc.

5. Write a critique upon one of the works of Geo. Eliot or of Mrs. Browning, which you have read.

JUNIOR CLASS.

LITERATURE.

1. Tell what you can about the life of Longfellow. Name his most noted works.

2. Who wrote the following: The Bridge of Sighs, The Deserted Village, Thanatopsis, Snowbound, The Alhambra, Locksley Hall, The House of Seven Gables, Paul Revere's Ride, Evangeline, The Hour of Death.

3. Write a brief essay on the poetry of Whittier.

4. What class of works did Prescott write? How does his style compare with that of other authors of the same class?

5. In what works do we find the following characters? Elsie Venner, Doctor Primrose, Priscilla, Mabel Martin, Father Felician. Name the authors.

6. From what works are the following quotations taken:

(*a*)
"Down with the law that binds him thus,
Unworthy freemen, let it find
No refuge from the withering curse
Of God and human kind."

(*b*)
"The golden sun,
The planets, all the infinite host of heaven
Are shining on the sad abodes of death,
Through the still lapse of ages."

(*c*)
"But who shall teach the flowers
Which our children love, to dwell
In a soil which is not ours,
Home, home and friends, farewell!"

(*d*)
"Oh, but for one short hour,
A respite, however brief!
No blessed leisure for love or hope,
And only time for grief."

(*e*) "A woman's whole life is a history of the affections."

7. Quote two passages from Tennyson's works.

8. Quote two passages from Holmes' works.

ALGEBRA.

1. What does a parenthesis indicate? A vinculum?
How is equality indicated? Inequality?
What is an axiom? Give two axioms which are frequently referred to?

2. Factor a^6-1, $8-c^3$, $1-2z+36z^2$, x^8-z^8
Find the least common multiple of m^2-4, $zm-2z$, m^2+zm.

3. $\frac{a+b}{a-b}+\frac{a-b}{a+b}=?$

4. $(1+\frac{1}{a})\div(1-\frac{1}{a^2})=?$

5. A young man spent $\frac{3}{8}$ of his fortune the first year, and $\frac{4}{5}$ of the remainder the next year, when he had $1,420 left. What was his fortune?

6. $\frac{x}{4}+\frac{5y}{6}=14.$
$\frac{x}{8}+\frac{y}{6}=4.$
Find the values of x and y,

7. Define independent, equations, elimination, co-efficient, similar terms, homogeneous.

8. Expand $(a+y)^6$ by the Binomial Theorem.

9. Divide the number 56 into two such parts that their product will be 640.

10. Two numbers are to each other as 5 to 6, and (*a*) the difference of their squares is 44. Required, the numbers.

(*b*) $\sqrt{x-16}=8-\sqrt{x}$.
Find the value of x.

HISTORY.

1. (*a*) With what arts and sciences had the ancient Egyptians considerable acquaintance?

(*b*) What was the great characteristic of their institutions?

(*c*) What was the richest, most powerful, and most influential order among them?

(*d*) What was the distinguishing feature of their architecture?

(*e*) What famous dynasty ruled in Egypt for 300 years and was noted for the encouragement of science?

2. (*a*) Why do the Phœnicians hold such an important place in ancient history?

(*b*) Mention two kings of Persia.

(*c*) To which race do nearly all the noted peoples of the world belong?

(*d*) What can you say about Lycurgus? Draco? Pisistratus? Solon?

(*e*) Mention some names of Spartans famous for bravery.

3. For what was the age of Pericles noted?

4. (*a*) Where was Alexander the Great born?

(*b*) What was the extent of his conquests?

(*c*) What was the effect of his death upon his empire?

(*d*) Name the most noted of the Grecian national games.

(*e*) For what was Homer noted? Xenophon? Herodotus? Socrates?

5. (*a*) Name the three political periods of Roman History, with the duration of each.

(*b*) What were the qualities which rendered Julius Cæsar so eminent?

(*c*) What were his principal achievements?

(*d*) Who constituted the First Triumvirate?

(*e*) Why was the reign of Augustus such an important one?

6. Give a brief account of Charlemagne.

7. (*a*) What was the origin of the Crusades?

(*b*) What was their effect on the civilization of Europe?

(*c*) Name two of the most noted leaders among the Christians and two among the Saracens.

8. (*a*) In what country and about what time was the art of printing invented?

(*b*) At the beginning of the Reformation, who was Pope of Rome and who was Emperor of Germany?

9. Who was the Duke of Alva? William of Orange? Philip II.? the Earl of Leicester? Henry of Navarre?

10. Give a brief account of the Invincible Armada.

SPECIAL QUESTIONS.

(Each of these questions, if correctly answered, may cancel one per cent. of failure in the regular questions.)

1. Why is the Rubicon famous in history?
2. Who discovered the passage around the Cape of Good Hope?
3. What effect had this discovery on Venice, and why?
4. What was the Edict of Nantes?
5. What was the Hapsburg dynasty?
6. Explain Richelieu's policy.

PHYSIOLOGY.

1. What are the *uses* and the *composition* of the *bones?* Why are the ends of the round bones *larger* than the middle portions? Name *two* flat bones and *three* round ones.

2. What is a *joint?* Name four joints in the human body, and tell what *kind* of joint each one is.

3. What is a ligament?

4. Give a general description of the process of *digestion*, naming all the organs concerned in it. (Half a page)

5. Tell what you can about the *lungs*, aud how we can guard them against injury.

6. Name the principal parts of the *ear*, and state, briefly, the physiology of hearing.

7. Define secretion, motor, sensory, cerebrum, gland.

8. Give five plain rules of Hygiene.

9. What is the office of the skin, and how should it be properly cared for?

10. Name the organs of circulation. Trace the blood in its entire course through the body. *Where* does the blood undergo its change from red to dark?

BOYS' HIGH SCHOOL.

SENIOR CLASS.

ALGEBRA.

1. Find the fourth root of

$$16a^4-96a^3x+216a^2x^2-216ax^3+81x^4$$

2. Insert three arithmetical means between $\frac{1}{3}$ and $\frac{1}{2}$.

3. (*a*) Find the formula for the sum of a geometrical progression.

(*b*) The last term of a geometrical progression is 62,500, the ratio 5, and the number of terms 7. Required the first term and the sum of the series.

4. What are logarithms? Explain how multiplication, division, involution and evolution are performed by means of logarithms.

5. (*a*) Find $(a-b)^7$ by means of the Binomial Theorem.

(*b*) Find the cube root of 30 by logarithms.

(*c*) $\dfrac{3x-1}{\sqrt{3x}+1}=1+\dfrac{\sqrt{3x}-1}{2}$

POLITICAL ECONOMY.

1. Define capital, value, price, tariff, rent, credit, currency, taxes.

2. Explain the difference between fixed and circulating capital.

3. Upon what circumstances does the price of anything depend?

4. What is the value of money? Why is it sometimes erroneously supposed that the value of money is invariable?

5. Why are gold and silver so universally accepted as the basis of currency?

6. Of what three elements are the profits of capital composed?

7. What is meant by protection; and how do protectionists justify their interference with foreign commerce?

8. What is *indorsing* a bill?

LATIN.

1. Scan and explain the peculiarities in the following:

> Quid tempestatis autumna et sidera dicam
> Atque ubi jam breviorque dies et mollior aestas,
> Saepe ego cum flavis messorem induceret arvis.

2. Translate:

> Atque haec ut certis *possumus dicere signis*
> Aestusque, pluviasque et agentes frigora ventos
> Ipse pater *statuit* quid menstrua luna moneret.
> Quo signo caderent austri, quid *saepe videntes*
> Agricolas *proprius stabulis* armenta tenerent.

3 and 4. Parse italicized words in above.

5. Translate:

> Qui te, Pollio, amat, *veniat* quo te quoque *gaudet.*
> Mella fluant illi ferat et rubus asper amomum
> Qui Bavium non odit amet tua carmina Maevi,
> Atque idem jungat vulpes et mulgeat hircos.

6. (*a*) Rule for subjunctive. (*b*) Construction. (*c*) Principal parts. (*d*) Rule for gender. (*e*) What kind of verb, and mention two other similar verbs.

7. Translate:

> Nox erat, et terris animalia somnos habebat,
> *Effigies* sacrae *divum,* Phrygiique penates,
> Quos mecum à Troja mediisque ex ignibus urbis,
> *Extuleram visi* ante oculos adstari jacentis,
> In somnis *multo* manifesti *lumine;* qua se
> Plena per insertus fundebat luna fenestras.

8. Of the italicized words, decline and govern nouns, give principal parts and composition of verbs, compare adjectives and adverbs.

9 and 10. Translate into Latin:

1. Cicero praises Fabricius because he was just.
2. There are some who say that vice increases every day.
3. I would write more to you if I had more leisure.
4. Young men, devote yourselves to this study, that you may be wise.
5. O that unhappy day when Sulla was made Consul!
6. I have written above that the Senate had assembled in the temple of Jupiter Stator.
7. Let us believe them when they speak the truth.
8. Ambassadors have come (to salute the king).

9 and 10. Write the parenthesis in two different ways.

GENERAL HISTORY.

1. Mention three ways in which Christendom was very much widened toward the latter part of the fifteenth century. What was the main vice of the old Roman civilization?

2. What three powers or systems belonged to the old order of things, and gave way to modern civilization? What were the main features of one of the three systems?

3. Name five prominent reformers; two English, on Genevan, two German. For what was the Diet of Worms called? When? Who was then Emperor of Germany? Who was then King of England? What important maritime enterprise was completed during that year, and who was its leader?

4. Where and by whom was the sea route to India discovered? State the commercial effect of this discovery.

5. Name two of the most noted men during the time of the struggle for liberty in Holland. How long did the struggle last? Who was monarch of Spain during the most interesting portion of this war?

6. What were the chief characteristics of the reign of Queen Elizabeth? Name four noted men of her time.

Name all the English kings of the race of the Stuarts; and state the circumstances under which the last of the Stuarts ended his reign.

7. How long did Louis XIV reign? What were the objective points in the administration of Richelieu?

State the leading causes of the French Revolution.

Name four of Napoleon's great battles; two in which he was defeated, and two in which he was victorious.

8. Give a brief outline of the rise of Russia.

ENGLISH LITERATURE.

1. Mention and describe three English literary productions previous to the time of Chaucer.

2. When did Chaucer live? Name his greatest work, and give an analysis of its plan.

Name a distinguished English contemporary of Chaucer, and state what he was noted for.

3. Give a brief account of the development of the drama from its most primitive form to the time of Shakespeare.

4. Name three great writers of the age of Queen Elizabeth; also one of the leading works of each.

5. Of whom was it said, "The wisest, brightest, meanest of mankind"; and who said it?

Mention three of the leading works of the author of the above quotation.

6. Name the author of each of the following works, and mention another work by each author: Areopagitica, Annus Mirabilis, The Tale of a Tub, English Bards and Scotch Reviewers, Lay of the Last Minstrel, Rasselas.

7. Mention the five first great novelists—name one work of each.

8. Name the three historical writers of the eighteenth century, the leading work of each, and the defects of these historians.

MIDDLE CLASS.

ALGEBRA.

1. (*a*) Simplify $3(x^2+y^2)-[(x^2+2xy+7^2)-(2xy-x^2-y^2)]$

(*b*) Simplify $x-\frac{4a-b}{2}-(7x-\frac{3a-2b}{3})$

(*c*) In reducing fractions to a common denominator, what principle is used?

2. (*a*) Square the difference of a^2 and ¼, and state the theorem.

(*b*) What is the product of the sum, and the difference of x^3 and y^3? State the theorem, and by it find the product of (x^2+xy+y^2) and (x^2-xy-y^2)

3. (*a*) What is a common multiple of two or more quantities?

(*b*) The greatest common divisor of two or more quantities?

(*c*) Find the G. C. D. of

$$2x^4-7x^3-4x^2+x-4 \text{ and } 3x^4-11x^3-2x^2-4x-16.$$

4. If the prime factors of two or more quantities be given, how would you obtain from them (*a*) the G. C. D., and (*b*) the L. C. M.? Analyze each operation.

5. Reduce to its simplest form, by the use of factors:

(*a*)

$$\frac{\dfrac{x^4-y^4}{x^2+7^2-2xy}}{\dfrac{x^2+xy}{x-y}}$$

(*b*) Simplify:

$$\frac{\dfrac{3x}{2}+\dfrac{x-1}{3}}{\dfrac{13}{6}(x+1)-\dfrac{x}{3}-2\tfrac{1}{2}}$$

6. (*a*) On what principle are quantities transposed from one member of an equation to the other?

(*b*) $x^2+a^2-b=20$. Transpose the known quantities from the left hand member of the equator to the right, and explain by what right you transfer.

(*c*) Show that $a^0=1$.

Show that $a-^{2}=\frac{1}{a^2}$

7. (*a*) Solve $\frac{3x-1}{2x-1}-\frac{4x-2}{3x-2}=\frac{1}{6}$

(*b*) Show the principle of the rule employed by using the equation:

$$x^2+2px=q.$$

8. Solve $\frac{x+y}{3}+\frac{y-x}{2}=9.$

$\frac{x}{2}+\frac{x+y}{9}=5.$

(*b*) On what principle are equations solved by addition and subtraction?

9. (*a*) Simplify $\frac{1}{\sqrt[3]{2}}-\frac{1}{\sqrt[3]{16}}$

(*b*) Multiply $1+\sqrt{3}$ by $\sqrt{6}-\sqrt{2}$.

NOTE.—The first six questions six credits each, the last three questions eight credits each.

LATIN—CICERO.

1. Oration II against Cataline, Section 6, line 33, page 30.

Translate from *Hic* to *edocui*.

(*a* and *b*) Give rules for subjunctives *egisset* and *reticuisset*.

(*c*, *d*, and *e*) Principal parts of *quæsivi*, *egisset*, and *edocui*.

2. Oration II, Sec. 13, line 8, page 37.

Translate from *Quæ* to the end.

(*a*, *b*, *c*, *d*, and *e*) Give rules for case of *prudentia*, *vobis*, *quibus*, *numine*, and *terra*.

3. Oration III, Sec. 7, line 2, page 45.

Translate from *Quod* to the end.

(*a*) Explain construction of *quod*.

(*b*) Explain conditional sentence "Si--remanisset."

(*c*) What English idiom corresponds to "ut--dicam"?

(*d*) Compare *levissime*.

(*e*) Rule for *nobis*.

4. Pro Archia, Sec. 8, line 21, page 67.

Translate from *quoties* to *sententias*.

(*a*) Write a synopsis of *utor* in subjunctive.

(*b*) Give the paradigm of the tense in which *scripsisset* occurs.

(*c* and *d*) Decline *tempore* and *versuum*.

(*e*) Give different meanings of *litera* in the singular and plural.

5. Pro Marcello, Sec. 10, line 34, page 106.

Translate from *perfuncta* to *sanitatis*.

(*a*) Rule for *bello*.

(*b*) Rule for mode of *inflammaret*.

(*c*) Rule for case of *exsilio*.

(*d*) What is the construction of the clause "ut—velint."

(*e*) Rule for case of *sapientiae*.

CHEMISTRY.

Eliot & Storer's Manual—To page 109.

1. Illustrate the difference between a chemical combination and a mechanical mixture; giving two examples of each.

2. In what forms does free O exist in nature? State its connection with the phenomena of animal life. How is it obtained in the laboratory?

3. Mention three methods of obtaining H. What are its characteristic properties? State the peculiarities of the hydrogen flame. Describe the oxyhydrogen blowpipe.

4. Give a brief description of P. How is it changed to Red P., and what new properties does it acquire?

5. Write at least twenty lines on the subject of sulphuric acid; its symbol, preparation, uses, etc.

6. Give the principal characteristics of chlorine. Tell what you can about its uses in the arts.

GEOMETRY.

1. What is a plane? a surface? a ratio? an inscribed angle? When are polygons said to be similar?

2. If from a point within a triangle two straight lines be drawn to the extremities of any side, what will be true of these two lines with reference to the other two sides of the triangle? Prove.

3. An inscribed angle is how measured? Prove.

4. On a given straight line to construct a segment that shall contain a given angle.

5. Triangles that are mutually equi-angular are similar. Prove.

6. If from a point without a circle two secants be drawn terminating in the concave will they be reciprocally proportional to the external segments? Demonstrate.

CÆSAR.

1. Book 1, page 17, sec. 16. Translate from *Interim* to *nolebat.*
   - (*a*) Give rule for case of *æduor* and *frumentum.*
   - (*b*) What kind of an infinitive is *flagitare*?
   - (*c, d, and e*) Principal parts of *polliciti*, *posita* and *nolebat.*
   - (*f*) Rule for the case of *frumento.*
2. Book 2, page 45, sec. 11. Translate from *His* to *ponerent.*
   - (*a*) Rule for *His.*
   - (*b*) Composition of *prefecit.*
   - (*c*) Give an English derivative from *subsequi.*
   - (*d*) Plural of *fugientium.*
   - (*e*) Compare *fortiter.*
   - (*f*) How is *ventum erat* used?
3. Book 3, page 69, sec. 24. Translate from *Hoc* to the end of the section.
   - (*a, b, c*) Give six words in English derived from Latin words in this passage.
   - (*d*) Decline *alacriores* in the plural.
   - (*e*) Is *pugnandum* a gerund or a gerundive? How do you know?
   - (*f*) Construction of *expectari.*
4. Book 4, page 75, sec. 8. Translate from the beginning to *posuit.*
   - (*a*) Antecedent and government of *quæ.*
   - (*b, c and d*) Rewrite the whole passage in Latin *direct discourse.*
   - (*e*) Decline ullos in the singular.
   - (*f*) What does the adjective *verum* qualify?

GRAMMAR.

1. Recast the following sentences, and substitute phrases or words for the clauses:
   - (*a*) Those words, *which were formerly current and proper*, have now become obsolete.
   - (*b*) My father bought a machine with which he could mow.
   - (*c*) If what you say is true, I will send the money.
   - (*d*) His favorite idea was, that he might make Spain a republic.
   - (*e*) He did not know that you were sick.

2. Substitute proper synonyms for the wrongly used words underlined:

(*a*) He has *erected* a fine house.
(*b*) The location is very *wholesome*.
(*c*) My dog Towser is very *courageous*.
(*d*) We reclined in the shadow of the tree.
(*e*) Construct two sentences, using the words *fortunate* and *lucky* properly,

3. Vary by euphemism the following :

(*a*) You are a fool. He lied. John is a coward. He is a conceited fellow.

(*b*) Vary by circumlocutions the following: Life is short. The sun shines. It rains.

(*c*) Write the following sentence in five different ways, without changing the meaning: Gold is the most precious of all metals.

4. Write five sentences, in which the verbs *lie* (to recline), *lie* (to falsify), *lay*, *fly*, and *flow*, are correctly used, in the third, singular, perfect, indicative.

5. Write the plurals of *ally*, *volley*, *muff*, *sheaf*. Write the feminine of *friar*, *stag*, *nephew*. Possessive plural of *woman*, *father-in-law*, *man-servant*.

6. Correct the following sentences, and give reasons:

(*a*) Who do you complain of?
(*b*) All debts are cleared off between you and I.
(*c*) The council is unanimous.
(*d*) Neither he nor she have spoken to him.
(*e*) Every limb and feature appear with their appropriate grace.

7. There is a reaper whose name is Death,
And with his sickle keen
He reaps the bearded grain at a breath,
And the flowers that grow between.

What kind of a sentence? Write on separate lines the clauses and phrases. State the office of each, and what it modifies. Parse the underlined words.

8. Illustrate three uses of *that*, two of *like*, two of *down*, and two of *much*.

HISTORY.

1. Who were the Phœnicians, and what interesting facts can you give respecting them?

2. (*a*) In what branch of art did the ancient Egyptians make great progress?

(*b*) With what sciences had they some acquaintance?
(*c*) What was the richest and most influential order among them?
(*d*) What was the great characteristic of Egyptian institutions?
(*e*) For what were the pyramids designed?

3. What were the principal characteristics of the age of Pericles?

4. Give the dates of the reign of Alexander the Great, and state briefly the extent of his conquests.

5. What was the policy of Rome regarding dependent and allied States?

6. Give an account of the revolt of the plebeians, B. C. 493.

NATURAL PHILOSOPHY.

1. What is *heat?* Define diathermanous, conduction, thermopile, hygrometer.

2. What is latent heat? specific heat? obscure heat?

3. State the difference between the Fahrenheit, the Reaumur, and the Centigrade thermometers.

4. Name two of the best conductors of heat among the metals, two of the poorest, and define calorescence.

5. Name two substances which transmit radiant obscure heat very readily and two which are nearly athermanous. Explain the speroidal state. What substance has a higher specific heat than any other solid or liquid?

6. State briefly the principle of the magnetic telegraph

7. What is a galvanometer, and what is its use in practical telegraphy?

8. Describe two different forms of the galvanic cell. In a magnet, where does the greatest power reside? Prove this by describing experiment.

9. Give the general law of attraction and repulsion as regards magnetism and electricity.

10. Name four practical applications of electricity. Why does a platinum wire become heated if a voltaic current be passed through it?

ENGLISH LITERATURE.

1. It is said that Goldsmith might with propriety be called a novelist, a poet, and a historian.

Mention a work written by him in each of those departments, and mention one of his works in which he mentions his father.

2. Who wrote The Task, The Rivals, Tam O'Shanter, Marmion, The Giaour?

Mention three additional works by the author of Marmion, and two by the author of The Giaour.

3. Who were the great literary impostors of the latter half of the eighteenth century?

Give particulars regarding one of them.

4. Give an account of the life of the greatest Scotch poet, and mention two of his poems.

5. Who were the so-called "Lake school" poets?

Mention an important poem by each.

6. Mention three leading English historians and two American historians of the nineteenth century; also, the leading work of each.

7. Mention five modern English novelists; also, one novel written by each.

8. Who wrote Essays of Elia, The Sketch-Book, Marble Fawn, The American Flag, Evangeline, The Biglow Papers.

MIDDLE CLASS.

ENGLISH GRAMMAR.

1. Combine the following statements into a simple sentence:

(*a*) Bruce sent two commanders.
(*b*) The war between the English and Scotch still lasted.
(*c*) He sent the good Lord James Douglas.
(*d*) He also sent Thomas Randolph, Earl of Moray.
(*e*) These men were great commanders.
(*f*) They were to lay waste the counties of Northumberland and Durham.
(*g*) They were to distress the English.

2. Combine the following into a complex sentence, as directed:

Columbus saw at a distance a light.
(Principal clause.)
This was about two hours before midnight.
(Adverbial phrase of time.)
Columbus was standing on the forecastle.
(Participial phrase, adjunct to *Columbus*.)
He pointed the light out to Pedro.
(Adjective clause, adjunct to *light*.)
Pedro was a page of the Queen's wardrobe.
(Appositional phrase, adjunct to *Pedro*.)

3. Expand the following simple sentences into complex:

(*a*) The stars appear small to us because of their distance.
(*b*) Riding along, I observed a man by the roadside.
(*c*) The wind being fair, the vessel put to sea.

Change the following to compound:

(*a*) The door being opened, the crowd rushed into the hall.
(*b*) I see that you are perplexed.

4. Write one rule for each of the following: Relation, agreement, government.

5. Correct the following, and give the reasons:
   - (*a*) Every one must judge of their own feelings.
   - (*b*) Hence arises the following advantages.
   - (*c*) If he is discreet, he will succeed.
   - (*d*) The side A, with the sides B and C, compose the triangle.
   - (*e*) Where neither noise nor motion are concerned.

6. Write four sentences, containing respectively the verbs *lie* (to recline) *lie* (to falsify), *fly*, and *flee*, in the third, plural, pluperfect, indicative.

7. Illustrate three uses of the word *that*, two of *like*, two of *down*, and two of *much*.

8. She seemed a creature fresh from the hands of God, and waiting for the breath of life—not one who had lived and suffered death.

What kind of a sentence?

Write on separate lines the phrases and clauses, and state the office of each, and what it modifies.

Parse *creature*, *waiting*, and *one*.

9. Define a pronominal adjective, attribute of a sentence, neuter verb, case.

10. Give the plurals of *genius* and *die*.

Write two nouns that are alike in both genders?

ARITHMETIC.

1. Divide $\left(\frac{\frac{5}{2}}{\frac{3}{4}}+\frac{\frac{22}{53}}{\frac{72}{159}}\right)$ by ($8\frac{1}{4} - 1\frac{7}{8}$.)

2. If 5 be added to each term of the fraction $\frac{27}{29}$, will the fraction be increased or diminished; and how much?

3. Divide fifty-one thousand sixty-five and seventy-six thousand one hundred eighty-nine hundred thousandths by fifty thousand and sixty-three millionths; and multiply the quotient by four hundred millionths.

(Answer within one thousandth.)

4. Certain goods were marked for sale at an advance of 35 per cent. on the cost, but were sold at a reduction of 35 per cent. on the price marked. What per cent. was gained or lost?

5. What decimal of 148 miles 4 furlongs is 9 miles 2 furlongs 10 rods?

6. A man bought a horse for $200, paid $50 for keeping him, and sold him for $320. What per cent. did he gain?

7. How many yards of carpeting $\frac{3}{4}$ yard wide will be required to cover the floor of a room which is $18\frac{1}{2}$ feet long and $15\frac{2}{3}$ feet wide?

8. How is a fraction multiplied? How are common fractions reduced to decimals?

9. If $\frac{7}{10}$ of a ton of coal cost $7\frac{3}{4}$ dollars, how much will $5\frac{1}{2}$ tons cost?

10. What amount of money has been invested when the broker's charges at $2\frac{1}{4}$ per cent. amount to $34.20

ALGEBRA.

1. Define coëfficient, exponent, reciprocal, factor.

2. Prove that $a^0=1$ and that $a^{-3}=\frac{1}{a^3}$

3, Divide $(a^2—\frac{a^4}{a^2—b^2})$ by $(\frac{ab}{b—a}—a)$

4. Find the value of the unknown quantities in the following equations:

$$x+\tfrac{1}{2}y=10—\tfrac{1}{3}z.$$
$$\tfrac{1}{2}x+\tfrac{1}{2}z=9—y.$$
$$\tfrac{1}{4}x—\tfrac{1}{4}z=2y—7.$$

5. (*a*) Multiply $(\sqrt{2}+1)$ by $(\sqrt{2}—1)$.

(*b*) Add $2\sqrt{c^2x—c^2y}$, $3c\sqrt{a^2x+a^2y}$, and $5\sqrt{a^2c^2x—a^2c^2y}$.

(*c*) Subtract $\frac{a}{13}\frac{\sqrt{361}}{5}$ from $\frac{2}{3}\frac{\sqrt{490a^2}}{338}$

6. (*a*) Find the square root of 651,249.

(*b*) Square root of $4a^4b^2—12a^3b^2+8a^3b^3+9a^2b^2—12a^2b^3+4a^2b^4$.

7. To what changes may both members of an equation be subjected without destroying the equality?

8. $\frac{3}{x+1}—\frac{2x—1}{x^2+\frac{x}{2}—\frac{1}{2}}=?$

9. Find the L. C. M. of $x^2—15x+36$, and $x^2—9x—36$.

LATIN READER.

Translate the following:

1. (*a*) Augustus *nepotes* suos *litteras* docuit.
   (*b*) Cicero maximum frumenti numerum *Romam* misit.
   (*c*) Tu virtutem praefer *divitiis*.

(*d*) Id est *Deo* proximum, quod optimum est.
(*e*) Justitia nihil expetit *praemii*, nihil pretii.
(*f*) Commoda, *quibus* utimur, a Deo nobis dantur.
(*g*) Quis dubitet, quin in virtute divitiae *sint*.
(*h*) Nemo unquam est oratorem, quod Latine *loqueretur*, admiratus.
(*i*) Lepidus declaravit quantum *haberet* odium servitutis.
(*j*) Veientes pacem *petitum* oratores Romam mittunt. 20 Credits.

2. Give the rules of syntax of the words underlined in the above. 20 Credits.

3. Page 55, translate § 157.
(*a*, *b*, *c*, *d*, *e*) Give rules of gender for pugnam, loco, forum, caede and foedus. 20 Credits.

GRADUATES FROM BOYS' HIGH SCHOOL, MAY, 1876.

REGULAR HIGH SCHOOL COURSE.

Ackerman, Sigmund
Cary, Walter
Chapman, Edgar
Chapman, Louis B.
Emmal, Joseph B.
Lieker, Hermann
Lynch, James K.
Magnes, Solomon D.
Whitehead, William C.
Moon, Charles
Smith, John M.
Seeligsohn, Michael
Weil, Alexander

CLASSICAL.

D'Ancona, Abraham A.
Davis, John
Eisner, Milton
Fabian, Samuel
Jackson, Charles
Platshek, Mark
Sawyer, William
Tuttle, Charles

LITERARY.

Fraser, Hugh

GRADUATES OF THE GIRLS' HIGH SCHOOL, MAY, 1876.

Carnes, Marion
Hawley, Mary A.
Weed, Ida B.
Goldsmith, Ada
Morton, Carrie L.
Soulé, Maud
White, Winifred
Hawley, Mary E.
Shipman, Lillie H.
Fulda, Frances
Louderback, Lizzie S.
Fischer, Jennie
Miley, Nettie D.
Adams, Lucie Frances
Burke, Kittie
Hodgdon, Addie
Weed, Anna
Bennett, Emma
Arendt, Clara A.
Church, Emma F.
Lalande, Alice H.
Swain, Mattie
Carruthers, Agnes G.
Farran, Mary
Bush, Lizzie R.
Crowley, Lizzie
Hawes, Sarah E.

Ball, Mary E.
Karsky, Sarah
Thompson, Carrie B.
Barman, Rebecca
Bergson, Emma E.
Bovee, Susie H.
Bunker, E. Louise
Garretson, Nettie
Jones, Sallie J.
Stanford, Belle M.
Hession, Kate E.
Meyer, Hattie
Selleck, Nellie
Turner, Mary
Cowley, Florence
Lightner, Gussie
Smyth, Anna F. M.
Somerset, Carrie J.
Brooks, Fannie
Driscoll, Mary A.
Fallon, Katie
Brown, Emma H.
Hamilton, Lizzie
Morgenthau, Pauline
Otis, Ara
Booth, Nora
Cowles, Myra A.
Curry, Annie
Hutchinson, Kate F.
Lewis, Julia
Patton, Jessie
Ryan, Belle
Wade, Nettie
Brown, Julia A.
Coffin, Fanny C.
Erzgraber, Emma
Frontin, Lizzie A.
Gallagher, Cora
Goldman, Julia E.
Marshall, Laura C.
Moore, Lulu
Williamson, Theresa
Maguire, Alice K.
McElroy, Nelly
Harris, Susie
Hurley, Maggie
McCarthy, Katie A.
Rooney, Annie
Block, Julia
Mayers, Rachel
Daly, Mary
Murdock, Lillie N.
Moore, Susie D.
Pratt, Anna E.
Kimball, Rebecca M.
Bean, Anna R.
Brady, Katie
Donnelly, Nellie D.
Leeman, Ettie
Spooner, Ida
Stivers, Lanor
White, Belle
Tarmar, Mary E.

MEDAL PUPILS OF THE GRADUATING CLASS OF THE DENMAN GRAMMAR SCHOOL, MAY, 1876—ELEVENTH AWARD.

Adelia H. Yule,
Matilde Aubert,
Lottie Dent,
Maria Horton,
Julia Fischer,
Annie Mayrisch,
Maggie R. Farrell,
Fredrica Fox,
Lizzie Coffey,
Kittie I. Soulé,
Emma Cohn,
Emma L. Kohler,
Minnie Willie,
Mary Keating,
Annie Hobbs,
Henrietta Payot,
Mary Jenkins,
Lulu Manning,
Ella Green,
Lillie H. McAllister,
Lelia Somers,
Flora Hauser,
Sarah Butler,
Lulu Durkin,
Mary J. Love,
Minnie Mathews,
Lizzie McCorkell,
Sophie E. Coburn,
Katie N. Crowley,
Annie Shaw,
Mary J. Bodkin,
Clara Duncan,
Alice B. Chittenden,
Sarah F. Donnelley,
Celia S. Alsberg.
Emma Pearce,
Hattie C. Holland,
Mary A. Moss,
Amanda J. Smith,
Maggie Barrett,
Mabel Cohn,
Mary Gallagher,
Fannie Reynolds,
Lillie Sneckhert,
Annie Wilson,
Mary L. Barney,
Jennie Shattuck,
Ella Libby,
Mary Lockwood,
Jennie F. Clark,
Katie Kolmyer,
Lulu Turrell,

TEACHERS LIBRARY
San Francisco Public Schools

MEDAL PUPILS OF THE GRADUATING CLASS OF THE LINCOLN GRAMMAR SCHOOL, MAY, 1876—ELEVENTH AWARD.

William Newcum,
William E. Conner,
John McL. Lachlan,
Bernard Rosenberg,
George Alexander,
Milton Gabbs,
Frank Andrews,
Samuel Rosenbaum,
Philip Colbert,
Frank B. Peterson,
James Bulger,
Wallace Gilpatrick,
Oliver Everet,
John Pratt.
Joseph Little,
Ansie Hammond,
Eddie Winer,
Albert Booth,
George Russel,
Frank Probaco,

FIRST GRADE PUPILS PROMOTED TO THE HIGH SCHOOLS, WITHOUT EXAMINATION, MAY, 1876.

DENMAN GRAMMAR SCHOOL.

Celia S. Alsberg,
Katie P. Crowley,
Sarah F. Donnelley,
Carrie Koshland.
Emma L. Pearce,
Lelia C. Somers,
Mary Barney.
Ada Bragg,
Emma De La Bar,
Lizzie McCorkell,
Fannie Reynolds,
Amanda Smith,
Mathilde Aubert,
Lizzie Coffey,
Carrie Goodwin,
Blanche Figel,
Lillie Luckhart,
Emma St. Leger,
Clara Duncan,
Emma Cohn,
Lulu F. Durkin,
Emma L. Kohler,
Minnie Mathews,
Jennie M. Shattuck,
Mary Gallagher,
Julia Hausell,
Mary Jenkins,
Susie Morey,
Stella Simon,
Adelia Yule,
Maggie Barrett,
Lavina Cousins,
Ella Green,
Lulu Manning,
Annie Shaw,
Minnie Willie.

LINCOLN GRAMMAR SCHOOL.

Gilpatrick, Wallace
Everett, Oliver
Little, Joseph
Hammond, Ansie
Winer, Eddie
Booth, Albert
Ready, Patrick
Bancroft, Harlow
Conner, Willie
Gabbs, Milton
Rosenberg, Bernard
Ryder, R. Robert
Wort, Harry
Casey, John
Lachlan, John McL.
Colbert, Philbert
Drew, Frank
Rosenberg, Samuel
Lightner, Phalix

RINCON GRAMMAR SCHOOL.

Annie Caswell,
Fannie Daniels,
Katie Fitzgerald,
Mary Fuller,
Kate McElwee,
Effie Gunnison,
Agnes McNamara,
Fannie Rosenberg,
Annie Smith,
Eva Stoddard.
Albertine Turner,
Ada Butterfield,
Annie Beale,
Eva Coon,

WASHINGTON GRAMMAR SCHOOL.

Henry Barbat,
Henry Fiske,
Fred. Lake,
Frank Leiker,
Louis Schloss,
George Underwood.

UNION GRAMMAR SCHOOL.

Charles Nathan,
Harris Young,
Horace Rickert.

BROADWAY GRAMMAR SCHOOL.

Fannie Lyne,
Lizzie Ils,
Libbie Yocum,
Lizzie Myers,
Annie Andrews,
Rose McGeough,
Clara Elliott,
Eugenia Browell.

SPRING VALLEY GRAMMAR SCHOOL.

Andrew Casey,
John Hessian,
Margaret Delaney,
Alice Doran,
Annie Shea.
Pauline Klump,
Clara Lipp,

HAYES VALLEY GRAMMAR SCHOOL.

Roul Mandlebaum,
Andrew McCreery,
Edward Crosett,
Rosie Brunner,
Minnie Cohen,
Helen Curtis,
Clara Fisher,
Jennie Howard,
Leta Rosekrans,
Julia Silverthorn,
Lucie Wores,
Marie Brooks,
Nellie Drew,
Addie Knowlton,
Hattie Levy.

SOUTH COSMOPOLITAN GRAMMAR SCHOOL.

Thomas Holm,
Walter Johnson,
Franz Jacoby,
Charles Levy,
William Rieger,
Willie Cameron,
Edward Fulda,
Edward Louisson,
Helen Hecht,
Emily Horstman,
Katie Howard,
Alice Martin,
Eva Morgenstern,
Bertha Peckerman,
Agnes Spreckels,
Hattie Wangenheim,
Fannie Dennis,
Louise Felsenthal,
Ella Klauber,
Fannie Kowalsky,
May Lewis,
Tillie Neumann,
Lizzie Peltret.

NORTH COSMOPOLITAN GRAMMAR SCHOOL.

Abraham Ruef,
George Pease,
Vincent Montgalliard,
Frank Lynch,
Frederic Hunterman,
Louis Donyel,
Almarine Roach.
Mary Crimi,
Adele Grimm,
Maria Rethers,

EIGHTH STREET GRAMMAR SCHOOL.

David Hennessy,
James Keating,
Lillie Brady,
Ida Hiester,
Lottie McGregory,
Sarah Canovan,
Annie Kennedy,
Mary Thompson.

VALENCIA STREET GRAMMAR SCHOOL.

Ellsworth Green,
Walter F. Mayerhofer,
Harry J. Morton,
Frank M. Murtha,
Harry A. Parrish,
Carrie Benson,
Mary Beckwith,
Josephine M. Boyd,
Annie Caler,
Lizzie Doyle,
Henrietta Goldman,
Bessie S. Harris,
Emma Heiniman,
Anna Jackson,
Martha Latham,
Maggie Mackie,
Annie McNicoll,
Lulu Paget,
Cora Spear,
Jessie S. Worley,
Florence Worley.

MODEL SCHOOL.

Andrew Valleau,
Edgar Whitney,
Asa Phelps,
Carrie F. Tennent,
Louisa Schwarze,
Lulu Jerome
Minnie Fairbanks,
Mary A. North.

WEST END SCHOOL.

Lillie Brooks.

FIFTH GRADE PUPILS PROMOTED WITHOUT EXAMINATION, MAY, 1876.

DENMAN GRAMMAR SCHOOL.

Jennie Anderson,
Lulu Coffee,
Cordelia Cohn,
Lizzie Dunn,
Minnie Horton,
Mattie Jones,
Bertha Meyerstein,
Jennie Rice,
Lizzie Short,
H. Vanderslice,
Annie Crook,
Annie Crane,
Gertie Ewing,
Nellie Finley,
Annie Miller,
Allie Owens,
Nellie Yale,
Mary Alexander,
Carrie Bettman,
Emilie Edouart,
Cora Edwards,
Emma Elliott,
Lulu Hopps,
Mary Jones,
Anna Newcum,
Mary Sedgley,
Carrie Tannebaum,
Ella Wainwright,
Mary Beers,
Maggie Duffey,
Jennie Frazier,
Katie Hanley,
Ida Miller,
Nellie Powers,
Hortense Ward,
Minnie Harron.

LINCOLN GRAMMAR SCHOOL.

Fred Cavanagh,
Author Castelayo,
George Fall,
Louis Friedlem,
Frank Silverstone,
Romaldo Romo,
George Carnelius,
George Mullien,
Robert Cristy,
Sammie Barker,
Stephen Crowley,
Arthur Granville,
Burnie Cromwell,
Willie Murphy,
Willie Ferrel,
Frank Ashfon,
Frank Brown,
Willie Greenbaum,
Charles Collins,
Charles Schultzberg,
Harry Egbert,
Robert Phillips,
Charles Perkins,
Willie Northrup,
George Bigelow,
Eddie Drady,
Louis Jacobs,
Walter McGarry,
Frank McEwen,
Robert Peyton,
Louis Stein,
Cyrus Taylor,
Charles Hendrickson,
John Figuero,
Christopher Boyle,
William Doherty,
Richard Burnett,
William Sweeney,
John O'Keefe,
Henry Kuttner,
Louis Morris,
Frank Manning,
Vincent McDonnell,
Owen Moore,
Willie Beckwith,
Richard Pennyfeather,
Henry Goldberg,
Charles Gebhard,
Emmet Nunan,
Jerry Joulin,
Amedee Joulin.

RINCON GRAMMAR SCHOOL.

Delia Chapman,
Emma Forrest,
Mary Gannon,
Martha Hawkins,
Hattie Holmes.
Katie Kohn,
Emma McAdams,
Winifred Mulligan,
Ida Peyser,
Bella Robinson,
Belinda Foley,
Sadie Lynch,
Bertha Witkowsky.
Minnie O'Connell,
Lizzie Pippy,
Hattie Rowe,
Dora Robinson,
Julia Siskron,
Mary Sexsmith,

WASHINGTON GRAMMAR SCHOOL.

Dennis Daley,
John DeMartin,
Frank Flynn,
William Hayes,
Nelson Haley,
Charles Jameson,
George Meyer,
Edgar Painter.
David Pinto,
Stephen Rossi,
William Sanderson,
Isaac Citron,
George Creamer,
Moses Fisher,
Herman Polack.
Aby Hayes,
Frederick Hildebrand,
Alexander Hoefer,
Charles Hossack,
Revillo Huff,
John Leary,
Augustine Morrissey,

UNION GRAMMAR SCHOOL.

Richard Adams,
Robert Boyd,
Duncan Campbell,
Daniel Curran,
Frederick Struble.
Alexander Malcom,
John McGovern,

BROADWAY GRAMMAR SCHOOL.

Alice Kane,
Emma Will,
Mollie Conroy,
Lillie Barber,
Maggie Gande,
Hannah Newmark,
Mary Streib,
Katie Daneri,
Katie Dunn,
Mary McMahon,
Sarah Little,
Annie O'Connell,
Louisa Sausset,
Louisa Rogè,
Augusta Spellman,
Lizzie Furlong,
Fannie Smith,
Lillian Tyson.

SPRING VALLEY GRAMMAR SCHOOL.

Frederick Hobe,
Edward Kenny,
Frank Mace,
James Phelan,
Gotfreid Stream,
Rhode Sweeny,
Emelia A. Duck,
Annie L. Evans,
Carrie Klee,
Alice G. Loucks,
Annie Pearson,
Agnes Sullivan.

HAYES VALLEY GRAMMAR SCHOOL.

Roul Mandlebaum,
Andrew McCreery,
Robert Duncan,
George Jesse,
Henry Keser,
Francis Kenney,
George Levenberg,
Jacob Levenberg,
Edward Crosett,
Isaac Caro,
John Flynn,
August Fahrback,
Sigmund Steiner,
Louis Tautphaus,
Joseph Baston,
Eddie Christin,
Simon Johnson,
John Liddle,
Morris Newhouse,
Cornelius O'Brien,
Robert Rutzman,
Leon Prise,
Hattie Prise,
Rosie Bruner,
Minnie Cohen,
Helen Curtis,
Clara Fisher,
Leta Rosekrans,
Julia Silverthorn,
Lucie Wores,
Jennie Howard,
Lizzie Christie,
Carrie Christin,
Annie Howard,
Lillie Harrison,
Tillie Lowe,
Minnie Martin,
Hortense McCreery,
Marie Brooks,
Addie Knowlton,
Nellie Drew,
Hattie Levy,
Annie Bandholdt,
Augusta Bauman,
Jessie Duncan,
Leonora Hertel,
Bertha Hyman,
Clara Kalisher,
Rosa Lang,
Annie Schroeder,
Lillie Strasser,
Elo Bergson,
Lizzie Dick,
Nellie McFadden,
Nellie Palmer,
Sheda Torbert,
Clara When,
Emma Brown,
Jessie Hixon.

SOUTH COSMOPOLITAN GRAMMAR SCHOOL.

Alexander Rich,
Julius Wangenheim,
Samuel Yehl,
Meyer Cahn,
Samuel Crowley,
Phineas Newmark,
Walter Reed,
Frederick Severance,
Adele Dahlman,
Carrie Hagen,
Ettie Honigsberger,
Ida Hahn,
Hattie Levy,
Ida Honigsberger,
Julia Seibel.
Florence Prag,
Ida Schepes,
Minnie Fechheimer,
Sally Levy,
Alice Lyons,
Maggie McCormick,
Louisa Moore,

NORTH COSMOPOLITAN GRAMMAR SCHOOL.

Walter Gibson,
Harry Rodden,
Abe Lux,
Louis Ring,
James Patterson,
August Boothby,
Nicholas Postag,
Frederic Staude,
Deidrick Huntermann,
Alphonse Dressell,
Philip Hessler,
Willie Schmolz,
Minnie Agard,
Mary Burke,
Lizzie Deane,
Julia Poulaine,
Nellie Wolf,
Dora Loveland,
Louisa Greif.
Alice Colvin,
Mary Lintrup,
Caroline Reel,
Dora Mathias,
Lillie Brauer,
Hannah Ehrich,
Sophie Yanfenbach,
Ida Wedekind,
Mary Wulf,

VALENCIA STREET GRAMMAR SCHOOL.

John Butler,
Joseph Brown,
Albert Barker,
George Carr,
Andrew Crawford,
Rufus Childs,
Frederick Cate,
Abram L. Cahalan,
George Downing,
Charles Davis,
Charles Dolan,
Walter Hartshorn,
Joseph Hughes,
Ernest Kruse,
Leon Lehouse,
Arthur Lyman,
Willie Nichols,
John Peacock,
Patrick Riordan,
Arthur Tracy,
Bryant Waterhouse,
Louis Woodthorpe,
Isabel Allen,
Mabel Arnold,
Clara Adams,
Anna Bruns,
Rena Barker.
May Brown,
Annie Cowan,
Mary Cummings,
May Casey,
Carrie Denny,
Charlotte Felbush,
Gracin Grabil,
Edna Housley,
Rosa Mahoney,
Mary McGorey,
Minnie Pringle,
Nettie Stuart,
Belle Stuart,
Anna Truett,
Anna Wentworth.

MISSION GRAMMAR SCHOOL.

Owen McNulty,
John Schaadt,
Bennie Silverstein,
Thomas Barry,
James Ferry,
Victor Maxwell,
George Allen,
Joseph Siberlich,
Charles Ulrich,
Joseph Greenleaf,
William Stoddart,
Henry Thomas,
John Smith,
Frank Ray,
Charles Nichols,
John White,
Charles Bush,
Frederick Clausen,
Robert Smith,
Marks Waldstein,
Max Bugbee,
Louis Neuman,
Daniel O'Callahan,
Kate Mangan,
Mary Huber,
Etta Conklin,
Kate O'Connor,
Mary Smith,
Lida Van Laak,
Clara Darling,
Mary Brooks,
Annie Joost,
Katie Leon,
Helen Gomperty,
Maggie Fennel,
Nellie Gleeson,
Lulu McCormick,
Dora Rosenblum,
Henrietta Winters,
Mary Duggan,
Maggie Driscoll,
Sarah Schath,
Sarah Peterson,
Louisa Scwarze,
Fannie Lempp,
Dora Bilay,
Regina Gans,
Margaret Volz,
Mary Searby,
Louisa Wissing.

SOUTH COSMOPOLITAN PRIMARY SCHOOL.

Ralph Rogers,
Hugo Creuziger,
August Wettig,
Henry Curtaz,
Arthur Booth,
Rudolf Müller,
Henry Mitchell,
Morrison Parker,
George Euler,
Edward Stecher,
George Pitt,
Montefiore Harris,
Henry Kuhlmeyer,
Alfred Ewert,
Sarah Harris,
Delia Klatt,
Winifried Hiends,
Bertha Weinberg,
Louise Dengler,
Annie Jenne,
Bertha Blochman,
Theodora Veunehreu,
Clara Ettinger,
Amelia Morris,
Mary Jacobs.
Hattie Daniels,
Eliza Wright,
Eva Alexander,
Clara Meyer,
Ottilie Schuhardt,
Esther Schoenwasser,
Maggie Young,
Emma Nibbe,
Esther Berkowitz,
Adele Schiller,
Rosa Hoffman,
Lillie Harris,

BUSH STREET COSMOPOLITAN PRIMARY SCHOOL.

Bennie Wurmser,
Vincent Bates,
Emil Chevanche,
Leon Dennery,
Samuel Dusenbury,
Eugene Hunt,
Samuel Label,
William Carlson,
Edward Hill,
Herman Wollitz,
Lena Megg,
Belle Hunter,
Hannah Volknar,
Mary Volknar,
Maggie Mitchell,
Gussie Bernhard,
Annie Butt,
Lulu Heisner,
Albertina Johnson,
Theresa Luthringer,
Theresa Strauss,
Emma Wenzel,
Annie Wuhrman.

LINCOLN PRIMARY SCHOOL.

Eddie Gross,
Willie Glynn,
Annie McDonough,
Nellie Smith,
Jeannette Whittemore,
Minnie Goldsmith,
Fannie Robertson,
Jennie Rutherford.

MARKET STREET PRIMARY SCHOOL.

Henry Riggs,
Virgil McAvoy,
Louis Huhs,
Louis Leny,
Henry Schomberg,
Sarah Pierce,
Sophia Rosenberg,
Alphonsine Guisard,
Jennie Ames,
May Norton,
Dinah Honig,
Mary M. Tamaney,
Julia Murphy,
Ida White,
Charlotte Cowie,
Amelia Shawl,
Jessie Tuttle.

GEARY STREET PRIMARY SCHOOL.

Joseph Andrews,
Eddie Batten,
John Bauer,
John Owens,
Willie Sieverling,
Henry Van Crombrughe,
Tillie Degan,
Lizzie McCarrick,
Eva Pine,

Alfred Booth,
Clarence Jacobson,
Bennie McDougall,
Willie Meiers,
George Murray,
John Walker,
George Rapp,
Agnes Bagge,
Emma Culverwell,
Agnes Donovan,
Mary O'Brien.
Nellie Russ,
Pauline Schindler,
Robenia Ogilvie,
Eva Main,
Emily Maxson,

MARKET AND SEVENTH STREET PRIMARY SCHOOL.

Eddie Watkins.

FOURTH STREET PRIMARY SCHOOL.

Clara Bolsted,
Christine Stack,
Rachel Levi,
Rosie James,
Sittara Butler,
Nettie Hersum,
Clara Turner,
Annie Geohagen,
Lucy James,
Effie McLean,
Mary Whelton.

SILVER STREET PRIMARY SCHOOL.

William Boyce,
William Byrne,
John Coghlin,
Bertie Fulton,
William Flynn,
James Gilmore,
Edward Hammer,
James Hanson,
Lancelot Keough,
Michael Powers,
George Scott.

PINE AND LARKIN STREET PRIMARY SCHOOL.

Celia Morken,
Sarah Denis,
Nellie Maret,
Rosalie Schweitzer,
Sadie Bogan,
Bertha Parks,
Georgie Morris,
Annie Gray,
Louisa Brown.

HAYES VALLEY PRIMARY SCHOOL.

Frank Holmes,
John Tucker,
Arthur McKenzie,
Bertha Levy,
Lizzie Crockett,
Lizzie Mann,
Maggie McCulloch,
Nellie Mann,
Mary McGlynn.

UNION PRIMARY SCHOOL.

Abe Coleman,
John Schammel,
Flora Bernard,
Anna Bruhns,
Minnie Cassassa,
Rose Demartine,
Mary Francis,
Rose Garabaldi,
Eva Medina,
Minnie Musgrave,
Mary Pippey.

SHOTWELL STREET PRIMARY SCHOOL.

John McCann,
Edward Ellery,
Thomas Busteed,
Willie McKenny,
James White,
Willie McHugh,
Annie Connelly,
Mary Pyne,
Blanche Cheeseman,

Stephen Sullivan,
Wilson Luce,
Willie Meeker,
William S. O'Brien,
Oscar Morgan,
Marion Lathrop,
Marian Morrison,
Sarah Houghton,
Bessie Curtis,
Katie Martenet,
Susie Cosgrove,
Minnie Sullivan,
Clara Hall,
Carrie Pond,
Louisa Cox,
Hattie McKee,
Nellie Rollins,
Minnie McConnell.

EIGHTH STREET PRIMARY SCHOOL.

Willie Bauman,
Thomas Delehanty,
Harry McEnhill,
George W. Patterson,
Kate Bohannan,
Annie Burns,
Tilly Cuff,
Mary Donnelly.
Annie Kelly,
Maggie McAvoy,
Mary L. West.

SAN BRUNO PRIMARY SCHOOL.

John Hickey,
Frank McAuliff,
Festus McDonogh,
Edward Rosenbergar,
John Waters,
Henry Crist,
Lucy Brown,
Mary Callahan,
Eugenia Puyoou.
Mary Puyoou,
Clara Sulsberg,
Alice Warren,
Honora Mooney,
Mary Veitch,
Mary McBride.

NOE AND TEMPLE STREET PRIMARY SCHOOL.

Mary E. Frank,
Angeline Marois,
Maggie Linehan.

OCEAN HOUSE SCHOOL.

John Denahy,
Willie Ryan.

LAGUNA HONDA SCHOOL.

Gregory Neville,
Daniel Neville,
Martha Camerden.
Sarah Kelly,

LAGUNA STREET PRIMARY SCHOOL.

William Clarke,
Samuel Fleishman,
William Martin,
Maggie Clarke,
Susie Lehrietter.

LIST OF SCHOOLS AND TEACHERS.

BOYS' HIGH SCHOOL.

Sutter Street, between Gough and Octavia Streets.

W. T. Reid	Principal.
A. L. Mann	Teacher of Latin and Greek.
Daniel Levy	Teacher of French and German.
A. T Winn	Teacher of Natural Sciences.

ASSISTANTS

J. M. Sibley,
E. Knowlton,
Wm. White,
G. R. Bissell,
M. L. Templeton.

GIRLS' HIGH SCHOOL.

Bush Street, between Hyde and Larkin Streets.

John Swett	Principal.
Mrs. C. R. Beals	Vice-Principal.
V. Rattan	Teacher of Natural Sciences.
Mrs. H. Hochholzer	Teacher of French and German.
Mrs. D. Clark	Head Assistant.
Mrs. M. W. Kincaid	Teacher of Normal Class.

ASSISTANTS.

Miss H. M. Thompson,
Miss S. A. Barr,
Mrs. C. L. Atwood,
Miss C. L. Hunt,
Miss M. J. Bragg,
Miss M. Wade,
Miss F. Jewett,
Mrs. M. L. Hoffmann,
Miss J. Smith,
Miss N. M. Owens,
Miss K. Elliot,
Miss S. E. Thurton,
Miss I. Doyle,
Mrs. M. Prag,
B. L. Aldrich,

MODEL SCHOOL.

Geary Street, between Jones and Leavenworth Streets.

Mrs. A. E. Du Bois	Principal.

ASSISTANTS.

Miss P. S. Lighte,
Miss M. E. Callahan,
Miss S. E. Kelly,
Mrs. C. K. Waters,
Miss A. L. Gray,
Miss S. H. Earle,
Miss D. Leppien,
Miss J. Tennent,
Miss E. Kraus,
Miss L. S. Corbell,
Miss S. Caldwell,
Mrs. E. M. North.

---

ald

DENMAN GRAMMAR SCHOOL.

Corner Bush and Taylor Streets.

James Denman	Principal.
Mrs. E. M. Baumgardner	Vice-Principal.

ASSISTANTS.

Mrs. M. J. Mayborn,
Miss S. P. Lillie,
Miss F. Stewart,
Miss A. Weston,
Miss N. L. Fulton,
Mrs. L. A. K. Clappe,
Miss A. T. Flint,
Mrs. S. B. Gates,
Miss L McKean.
Miss K. B. Childs,
Miss Belle Rankin.
Miss N. M. Ryan,
Mrs. M. J. Cline,
Miss M. J. Gallagher,
Mrs. E. Sexton,
Mrs. I. M. Merrill,

---

ald

LINCOLN GRAMMAR SCHOOL.

Fifth Street, between Market and Mission Streets.

J. K. Wilson	Principal.
James Hamilton	Vice-Principal.
W. H. Edwards	Vice-Principal.

ASSISTANTS.

Miss J. A. Forbes,
Miss M. Haswell,
Mrs. C. A. Anderson,
Miss N. Littlefield,
Miss S. A. Rightmire,
Miss B. Roper,
Mrs. M. A. Colby,
Miss N. R. Stevens,
Mrs. M. E. McKean,
Mrs. A. B. Anderson,
Miss N. A. Savage,
Miss Ruth Mathews,
Miss M. A. Ray,
Mrs. S. A. Miles,
Miss M. T. Shea,
Miss N. Murphy,
Miss M. O'Rourke,
Miss J. Heney,

SOUTH COSMOPOLITAN GRAMMAR SCHOOL.

Eddy Street, between Polk Street and Van Ness Avenue.

A. Herbst	Principal.
A. Lyser	Vice-Principal.
Mrs. L. K. Burke	Vice-Principal.
Jacques London	Teacher of French and German.
Wm. Zimmerman	Teacher of German.
Mrs. C. Lanfranchi	Teacher of French.
Miss S. Deetken	Teacher of German.

ASSISTANTS.

Miss G. Smith,
Miss K. F. McColgan,
Miss K. R. O'Leary,
Miss N. O'Loughlen,
Miss M. H. Condon,
Miss H. Phillips,
Miss R. Jacobs,
Miss F. M. Shearer,
Miss Julia O'Brien,
Miss A. Goldstein,
Miss M. Fairchild.
Mrs. J. H. Sykes,
Miss A. E. Hutton,
Miss C. Jacobs,
Miss E. Humphrey,
Miss M. Dillon,

RINCON GRAMMAR SCHOOL.

Silver Street, between Second and Third Streets.

Miss E. A. Cleveland	Principal.
Miss M. E. Stowell	Vice-Principal.

ASSISTANTS.

Miss A. C. Robertson,
Miss K. McDonald,
Miss A. M. Dore,
Miss S. Avery,
Miss C. T. Bucknam,
Miss J. B. Brown,
Mrs. S. N. Joseph,
Mrs. H. A. St. John,
Miss E. W. Healey,
Miss M. F. Smith,
Miss H. A. Moses.

HAYES VALLEY GRAMMAR SCHOOL.

McAllister Street, between Franklin and Gough Streets.

E. D. Humphrey	Principal.
Mrs. F. E. Reynolds	Vice-Principal.
George Brown	Vice-Principal.
Dr. J. Wiedeman	Teacher of French and German.
Miss H. Cobb	Teacher of French.

ASSISTANTS.

Miss M. E. Lipman,
Miss A. M. Huntley,
Miss K. A. O'Brien,
Miss K. McFadden,
Miss M. M. Rowe,
Mrs. C. A. Hartmeyer,
Miss K. E. Gorman,
Miss M. I. McNicoll,
Miss G. Dietz,
Miss M. Varney,
Miss G. E. Stevens.
Miss A. M. Hayburn,
Mrs. M. E. Caldwell,
Miss A. H. Robertson,
Miss Carrie Stone,
Miss F. E. Randall,

VALENCIA STREET GRAMMAR SCHOOL.

Horace

Valencia Street, between Twenty-second and Twenty-third Streets.

S. A. White	Principal.
L. W. Reed	Vice-Principal.
Miss A. C. Ciprico	Vice-Principal.
L. Michaelson.	Teacher of German.
Mrs. J. E. Gerichten	Teacher of French and German.

ASSISTANTS.

Miss A. A. Rowe,
Miss M. T. Little,
Miss M. E. Bennett,
Miss R. Bragg,
Mrs. S. J. Mann,
Miss M. Ames,
Mrs. E. A. Wilson,
Miss M. I. Connell,
Mrs. M. L. Clery,
Miss C. Cohn,
Mrs. A. L. Trask,
Mrs. E. C. Marcus,
Miss M. E. Casey,
Mrs. E. D. Humphrey,
Mrs. E. Giffard,
Miss E. J. Miller,
Miss S. C. Sturtevant,
Miss A. H. Rhodes.

NORTH COSMOPOLITAN GRAMMAR SCHOOL.

Hancock

Filbert Street, between Taylor and Jones Streets.

Miss K. Kennedy	Principal.
Miss R. Levinson	Vice Principal.
I. Leszynsky	Teacher of German.
Mrs. B. Chapuis	Teacher of French.

ASSISTANTS.

Miss M. A. Humphreys,
Miss A. Campbell,
Miss L. A. Humphreys,
Miss N. Hoy,
Miss H. Mullens,
Miss D. Tiedeman,
Miss N. Storrs,
Miss K. J. Mathieson,
Miss E. M. Lindberg,
Mrs. H. Wise,
Miss A. Weed.

SPRING VALLEY GRAMMAR SCHOOL.

Broadway street, near Polk Street.

J. W. Anderson ....Principal.
Miss J. B. Short..................................Vice Principal.

ASSISTANTS.

Mrs. H. P. Taylor,
Miss A. C. Gregg,
Miss A. P. Fink,
Miss M. E. D. Blackstaff,
Miss A. S. Harrington,
Miss L. M. Banks,
Miss H. M. Thompson,
Miss E. Bonnard,
Miss M. Bonnard.
Miss M. J. Canham,
Miss V. M. Raclet,
Miss J. M. Boland,
Mrs. C. M. Sisson,

BROADWAY GRAMMAR SCHOOL.

Broadway Street, between Powell and Mason Street.

C. H. Ham..Principal.
Mrs. M. J. Carusi..................................Vice Principal.

ASSISTANTS.

Miss M. L. Soule,
Miss C. R. Carrau,
Miss A. Aiken,
Miss C. Adams,
Miss F. L. Soule,
Miss L. P. Watson,
Mrs. L. Kelly,
Miss E. Conroy,
Miss C. Stewart.

UNION GRAMMAR SCHOOL.

Union Street, bet. Kearny and Montgomery Streets.

C. F. True...Principal.
Dan Lambert..Vice Principal.

ASSISTANTS.

Miss N. S. Baldwin,
Miss C. Wheaton,
Mrs. M. Currier,
Miss F. Spanhacke,
Miss J. Miller,
Miss E. G. Grant,
Miss K. Fitzsimmons,
Miss E. Cooney,
Miss N. McFarland.

WASHINGTON GRAMMAR SCHOOL.

Corner Washington and Mason Streets.

Jas. O'Connor.......................................Principal.
E. Brooks.......................................Vice Principal.

ASSISTANTS.

Miss D. S. Prescott,
Miss C. Barlow,
Miss I. Lamb,
Miss M. Murphy,
Miss I. Patterson,
Mrs. A. E. Wright,
Miss M. Hendry,
Miss J. Driscoll,
Miss I. Merrit,
Miss A M. D'Arcy,
Miss M. Evans.

EIGHTH STREET GRAMMAR SCHOOL.

Eighth Street, bet. Harrison and Bryant Streets.

Jno. A. Moore.......................................Principal.
A. J. Itsell.......................................Vice Principal.

ASSISTANTS.

A. D'Ancona,
Miss L. M. Knowlton,
Miss J. A. Hutton,
Miss K. E. Hurley,
Miss Bessie Dixon,
Miss L. M. Classen,
Miss T. L. Lynch,
Miss E. Donovan,
Miss M. C. Barry,
Miss N. Haswell,
Mrs. M. A. Phelan,
Miss M. H. Slavan,
Miss M. A. Harrigan,
Miss M. O'Brien,
Miss A. Aaron,
Mrs. E. F. Magee,
Miss J. E Dowling.

MISSION GRAMMAR SCHOOL.

Mission Street, between 15th and 16th Streets.

Miss L. T. Fowler.......................................Principal.
Miss B. Cox.......................................Vice Principal.

ASSISTANTS.

Mrs. A. Horton.
Miss M. O'Connor,
Miss M. Boyle,
Mrs. M. O'Neal,
Miss J. E. Greer,
Miss M. L. Greer,
Miss M. Sprott,
Miss J. Forsythe,
Miss W. Smith,
Mrs. S. F. Neil,
Miss W. E. Morse.

GEARY STREET GRAMMAR SCHOOL.

Geary Street, between Pierce and Scott Streets.

W. A. Robertson...... ....Principal.

ASSISTANTS.

Mrs. N. A. Wood,
Mrs. E. J. Elliot,
Miss M. Strange,
Miss E. Harris,
Miss J. Gibbs,
Miss M. Robinett,
Miss I. Strauss,
Miss E. Morton,
Miss L. Pfeiffer,
Miss L. Hay,
Miss N. Stallman,
Miss E. Stone.

MISSION PRIMARY SCHOOL.

Mission Street, between Fifteenth and Sixteenth Streets.

Miss M. J. Hall.............. ....Principal.

ASSISTANTS.

Miss E. Cottle,
Miss A. Day,
Miss J. Lundt,
Miss M. Bradbury,
Miss G. Gallagher,
Miss V. Ruby,
Miss A. Pearce.
Miss R. Jewell,
Miss M. Deane,
Mrs. E. Varney,

TEHAMA PRIMARY SCHOOL.

Tehama Street, between First and Second Streets.

Mrs. E. A. Wood.......... ....Principal.

ASSISTANTS.

Mrs. J. D. Wheeler,
Miss L. J. Horn,
Miss H. A. Grant,
Miss E. White,
Miss F. A. Nichols,
Miss A. S. Ross,
Miss K. Johnston,
Miss E. Gallagher,
Miss J. Ephraim,
Miss E. A. Shaw,
Miss E. Little.
Mrs. A. H. Hamill,
Miss Louise Donnelly,
Miss Louise Brandt,
Mrs. J. Love,
Miss E. H. Morrison,

SOUTH COSMOPOLITAN PRIMARY SCHOOL.

Post Street, between Stockton and Dupont Streets.

Miss M. A. Castelhun.................................Principal.
Miss A. Fittig.................................Teacher of German.

ASSISTANTS.

Miss L. McNeir,
Mrs. R. T. Carter,
Miss Ida Kervan,
Miss A. Garland,
Miss J. E. Lande,
Miss M. E. Kaplan,
Miss L. Heineberg,
Miss M. E. Roberts,
Mrs. E. E. Hoyt,
Miss B. Bunner,
Miss L. Wells,
Miss M. A. Lloyd,
Miss K. M. Fuller,
Miss R. Goldsmith,
Miss A. Schwann,
Miss R. Abrahamsohn,
Mrs. J. F. Crawford.

LINCOLN PRIMARY SCHOOL.

Bryant Street, bet. Sixth and Seventh Streets.

Miss K. Sullivan.................................Principal.

ASSISTANTS.

Miss M. L. Jordan,
Mrs. M. Steele,
Miss A. Hucks,
Miss C. Hart,
Miss P. Langstadter,
Miss Mary Collins,
Miss M. Salisbury,
Miss G. Garrison,
Miss M. L. Hart,
Mrs. L. T. Hopkins,
Miss F. E. Stuart,
Miss V. Whigham.

MARKET STREET PRIMARY SCHOOL.

Fifth Street, bet. Market and Mission Streets.

Miss A. M. Manning.................................Principal.

ASSISTANTS.

Miss M. A. Roper,
Miss J. Gilman,
Miss B. A. Kelly,
Miss B. Molloy,
Miss S. E. Skidmore,
Mrs. K. McLaughlen,
Miss L. O'Callaghan,
Miss A. L. Hunt,
Miss E. S. Anderson,
Miss M. B. Parker,
Miss S. B. Cooke,
Miss M. F. Byrnes,
Miss L. E. Provost,
Miss A. F. McDermott,
Miss M. J. Crothers,
Miss A. Lynch.

FOURTH STREET PRIMARY SCHOOL.

Cor. Fourth and Clara Streets.

Miss E. Stineen........ ....Principal.

ASSISTANTS.

Miss J. Madden,
Miss A. Gunn,
Miss A. E. Benson,
Miss E. Goldsmith,
Miss A. F. Sprague,
Miss M. J. Henderson,
Miss B. Peiser,
Miss H. Levy,
Miss E Clark.

PINE AND LARKIN STREET PRIMARY SCHOOL.

Pine Street, between Larkin and Polk Streets.

Miss H. Cooke............ ....Principal.

ASSISTANTS.

Miss M. Corkery,
Miss M. F. Metcalf,
Miss V. E. Bradbury,
Miss A. B. Sawyer,
Miss L. Templeton,
Miss L. Devine,
Miss K. Casey,
Miss M. Donnelly,
Miss F. Cook,
Miss M. A. Oglesby,
Miss D. Hyman,
Miss J. B. Irelan.

BUSH STREET PRIMARY SCHOOL.

Bush Street, between Stockton and Dupont Streets.

Mrs. C. F. Plunkett... .... Principal.
Miss V. Coulon ....Teacher of German.
Mrs. A. Goustiaux.............................Teacher of French.

ASSISTANTS.

Miss D. Sloss,
Miss T. Hermann,
Miss E. LaGrange,
Miss F. Hare,
Miss T. Hess,
Miss J. Thyes,
Miss E. Hochheimer.
Miss C. T. Maurer,
Miss H. M. Hitchcock,
Miss P. Raphael,

GREENWICH STREET PRIMARY SCHOOL.

Greenwich Street, between Jones and Leavenworth Streets.

Mrs. A. L. Trask	Principal.
Miss F. Salomon	Teacher of German.
Miss F. Wiehe	Teacher of German.
Miss C. Fleury	Teacher of French.

ASSISTANTS.

Miss C. E. Campbell,
Miss M. T. Giffin,
Miss J. C. Evans,
Mrs. F. Stewart,
Miss F. L. Stark,
Miss M. H. Smith,
Mrs. C. A. B. Smythe,
Mrs. M. J. Crocker,
Miss K. M. Hassen,
Miss A. Gavigan,
Miss L. M. Barrows,
Miss B. Goldsmith.

MARKET AND SEVENTH STREET PRIMARY SCHOOL.

Corner Market and Seventh Streets.

Miss Alice Stincen	Principal.

ASSISTANTS.

Miss C. B. Earle,
Miss A. Dudley,
Miss R. B. Birdsall.
Mrs. C. Danielwitz,

POWELL STREET PRIMARY SCHOOL.

Powell Street, between Jackson and Washington Streets.

Mrs. C. J. Gummer	Principal.

ASSISTANTS.

Miss M. C. Robertson,
Mrs. H. Shipley,
Mrs. E. S. Forester,
Miss M. Solomon,
Miss S. F. Featherly,
Miss C. Hastings,
Mrs. A. Bacon,
Miss C. R. Leete.

SILVER STREET PRIMARY SCHOOL.

Silver Street, between Second and Third Streets.

Miss J. Smith.	Principal.

ASSISTANTS.

Miss J. A. Doran,
Miss J. Gallagher,
Mrs. T. M. Sullivan,
Miss P. Hart,
Miss R. P. Paul,
Miss I. Glennon,
Miss E. Chase,
Miss S. A. Deacon,
Miss R. G. Campbell,
Miss E. Pearce,
Miss M. Sleeper,
Miss A. S. Jewett.

BROADWAY PRIMARY SCHOOL.

Broadway Street, between Montgomery and Sansome Streets.

Mrs. L. G. Deetken .... Principal.

ASSISTANTS.

Miss S. E. Miller,
Miss J. Johnson,
Miss E. L. McElroy,
Mrs. F. V. Davis,
Miss L. N. Randolph,
Miss M. E. Doran,
Miss S. Valleau,
Mrs. O. Dunbar.

UNION PRIMARY SCHOOL.

Corner Filbert and Kearny Streets.

Mrs. A. Griffith .... Principal.

ASSISTANTS.

Miss H. Featherly,
Mrs. M. Wright,
Miss A. Cherry.
Miss K. Deane,
Miss L. Burke,
Miss M. Bannan,
Miss P. Robbins,
Miss A. J. Hall.

SHOTWELL STREET PRIMARY SCHOOL.

Shotwell Street, bet. 22d and 23d Streets.

Miss A. A. Hill.................................... Principal.

ASSISTANTS.

Miss H. L. Wooll,
Mrs. E. M. Carlisle,
Mrs. E. S. Code,
Miss M. T. Walsh,
Mrs. F. A. Banning,
Miss A. Summerfield,
Miss D. Cronan,
Miss E. Ciprico,
Miss M. J. Johnson,
Miss E. Bodwell,
Miss M. Magner.

HAYES VALLEY PRIMARY SCHOOL.

Grove Street, between Larkin and Polk Streets.

Miss P. M. Stowell.................................... Principal.

ASSISTANTS.

Miss F. A. Stowell,
Mrs. M. Dwyer,
Miss L. E. Brotherton,
Miss G. N. Taylor,
Miss S. J. Boyle,
Miss C. K. Rixon,
Miss M. Fagan,
Mrs. L. A. Russell,
Miss Kate Little.

EIGHTH STREET PRIMARY SCHOOL.

Eighth Street, bet. Bryant and Harrison Streets.

Miss A. E. Slavan .... Principal.

ASSISTANTS.

Miss M. E. Moroney,
Miss C. Johnson,
Miss K. M. Donovan,
Mrs. M. A. Lowe,
Miss M. A. Ahern,
Miss M. A. Weeks,
Miss A. Roche,
Miss J. Hockheimer,
Miss M. Duraind,
Miss K. Zwicker.

TYLER AND JONES STREET PRIMARY SCHOOL.

Tyler Street, between Jones and Leavenworth Streets.

Mrs. E. B. Jones .... Principal.

ASSISTANTS.

Miss C. A. Menges,
Miss M. A. Hassett,
Miss L. W. Burwell.
Miss C. L. Pinkham,

TYLER STREET PRIMARY SCHOOL.

Tyler Street, between Pierce and Scott Streets.

Miss E. Cushing .... Principal.

ASSISTANTS.

Mrs. A. E. Tiernan,
Miss M. A. Hatman,
Miss M. Wiseman.

SPRING VALLEY PRIMARY SCHOOL.

Union Street, near Franklin Street.

Miss J. M. A. Hurley .... Principal.

ASSISTANTS.

Mrs. H. E. Moulton,
Miss K. Shepheard,
Miss M. E. Clark.
Miss M. E. Carson,

abd.

POTRERO SCHOOL.

Corner of Kentucky and Napa Streets.

W. W. Stone.......................................Principal.

ASSISTANTS.

Miss M. A. Fay,	Mrs. E. C. Osmer,	Miss A. M. O'Brien,
Miss G. H. Perry,	Miss K. Ellis.	

abd

NOE AND TEMPLE STREET PRIMARY SCHOOL.

Corner of Noe and Temple Streets.

Mrs. E. Foster.......................................Principal.

ASSISTANTS.

Miss M. Simon,	Miss I. C. Emmons,	Miss E. J. McGreevy.

FAIRMOUNT SCHOOL.

Chenery Street, near Randall Street.

Miss H. M. Fairchild.......................................Principal.

ASSISTANTS.

Mrs. A. H. Green,	Miss A. B. Hinton,	Miss H. Peck.

SOUTH SAN FRANCISCO SCHOOL.

Fourteenth Avenue, near L Street,

W. J. Gorman.......................................Principal.

ASSISTANTS.

Miss M. A. Mathews,	Mrs. M. E. Moore,	Miss E. F. Bowse,
Miss J. B. Gorman,	Miss K. Casey,	Miss M. L. Belding,
	Miss M. V. McGeough.	

COLUMBIA STREET SCHOOL.

Columbia Street, between Twenty-fifth and Twenty-sixth Streets.

Mrs. M. Deane .... Principal.

ASSISTANTS.

Miss E. N. Graham,
Miss M. Miller,
Miss L. E. Fennell,
Miss E. F. Swain,
Miss N. G. Sullivan,
Miss I. Mallory,
Miss C. L. Powers,
Miss L. Ryan,
Mrs. K. Miller,
Mrs. L. J. Fryer,
Mrs. C. J. Bigelow,
Miss E. F. Gracia.

LAGUNA STREET PRIMARY SCHOOL.

Laguna Street, between Tyler and McAllister Streets.

Mrs. G. Washburn .... Principal.

ASSISTANTS.

Miss T. C. Stohr,
Miss F. Peiser,
Miss S. R. Thompson.

LAGUNA HONDA SCHOOL.

Eighth Avenue, near R Avenue.

Mrs. J. E. Meeker .... Principal.

Assistant—Miss E. L. Cornell.

JACKSON STREET PRIMARY SCHOOL.

Jackson Street, between Webster and Fillmore Streets.

Mrs. B. F. Moore .... Principal.

ASSISTANTS.

Miss A. Hanson,
Miss R. H. O'Brien.

WEST END SCHOOL.

San Jose Road, near the Six Mile House.

Selden Sturges...Principal.

Assistant—Miss M. E. Traynor.

OCEAN HOUSE SCHOOL.

San Miguel Road, near the Ocean House Road.

James Dwyer...Principal.

POINT LOBOS SCHOOL.

Nineteenth Avenue, near Point Lobos Avenue.

Wellington Gordon...Principal.

TEACHERS OF MUSIC.

W. Elliot, Principal.
W. E. Price,
W. D. Murphy,
Miss E. A. Lamb,
Miss Marie Withrow.
Miss L. E. Ryder,
Miss H. Summerfield.

TEACHERS OF DRAWING.

H. Burgess...Principal.

Mrs. M. E. Stovall,
Mrs. E. P. Bradley,
Miss E. B. Barnes.

Main